

The baby box

Enhancing the wellbeing of babies and mothers around the world

Annariina Koivu

Yen T. H. Phan

Ella Näsi

Jad Abuhamed

Brittany L. Perry

Salla Atkins

Mikko Perkiö

Meri Koivusalo



The baby box

Enhancing the wellbeing of babies and mothers around the world

Annariina Koivu

Yen T. H. Phan

Ella Näsi

Jad Abuhamed

Brittany L. Perry

Salla Atkins

Mikko Perkiö

Meri Koivusalo

Authors

Annariina Koivu, PhD, MSc, MA, Postdoctoral Research Fellow
Tampere University
firstname.lastname@tuni.fi

Yen T. H. Phan, PharmD, MPH, Researcher
Tampere University
yenhoang93@gmail.com

Ella Näsi, MSc, MA, Researcher
The Social Insurance Institution of Finland
firstname.lastname@kela.fi

Jad Abuhamed, MD, MPH, Researcher
Tampere University
firstname.lastname@tuni.fi

Brittany L. Perry, MSc, Fulbright Grantee
University of South Florida

Salla Atkins, PhD, MA, Associate Professor
Tampere University
firstname.lastname@tuni.fi

Mikko Perkiö, PhD, MSc, Senior Research Fellow
Tampere University
firstname.lastname@tuni.fi

Meri Koivusalo, MD, PhD, MSc, Professor
Tampere University
firstname.lastname@tuni.fi

Photo credits

Photo 1 (p. 23). Mannerheim League for Child Welfare
Photo 2 (p. 24). The Finnish Labour Museum Werstas
Photo 3 (p. 27). The Finnish Labour Museum Werstas
Photo 4 (p. 28). Veikko Somerpuro / Kela
Photo 5 (p. 46). Melody Loewen / Welcome to Parenthood
Photo 6 (p. 59). Barakat Bundle
Photo 7 (p. 61). Mission Possible
Photo 8 (p. 62). Mission Possible
Photo 9 (p. 79). Alejandro Ochoa Fletes

© Authors and Kela

Graphic design and layout: Mikael Korhonen
ISBN 978-952-284-089-9 (print)
ISBN 978-952-284-090-5 (pdf)

URI <http://urn.fi/URN:NBN:fi-fe2020081360377>

Publisher: Kela, Helsinki
2020

Printed by Punamusta



Executive summary

The baby box is a social innovation: a maternity package with baby clothes and other items for expectant mothers to promote the wellbeing of baby and family. In Finland, the baby box (officially called *the maternity package*) has been a universal benefit since 1949 and is given to all expectant mothers provided they attend antenatal care (ANC). The baby box is still considered to be a valuable social benefit in Finland today, with 95% of first-time mothers choosing the box instead of a cash grant. Although it is known that the baby box concept has been adapted across the world, there is little information available about how these adaptations have been made and for what purpose the boxes are given out. In order to map these programmes, we conducted a research project on baby boxes globally. Based on our findings, this report introduces the baby box concept, its various adaptations, and its possible uses to improve maternal and child health and wellbeing globally.

The contents of this report are based on a mapping of 91 baby box programmes and an in-depth study of 29 programmes across different world regions in high-, middle- and low-income countries. These programmes were initiated by governmental bodies, non-profit organisations, United Nations (UN) agencies, hospitals, and academic institutions. Although we use the term baby “box” throughout the report, many programmes used a different container, such as a basket or bag, to package the items. The programmes ranged in scale from small to nationwide and targeted various groups, from specific vulnerable communities to all pregnant women in a country. Programmes set various goals, including reducing infant or maternal mortality, promoting the wellbeing of babies and mothers, easing financial and parenting burden, encouraging the uptake of health and community support services, and strengthening communities and reducing inequalities. They intended to achieve their goals through the practical support provided by the box and items, as well as the conditions attached to claiming the box (e.g. attendance at services) and additional education (e.g. booklets or arranged groups) included in the programme.

The impact of the baby box is of timely concern, as governments are increasingly interested in the concept. However, it is difficult to provide an unequivocal answer to the question of whether the baby box “works,” as this depends on the desired outcomes of the programme. In addition, due to resource constraints, few programmes measure the impact of their intervention systematically. In response to this question and these restraints, we outline the potential current contributions of the baby box to the wellbeing of mothers and babies and provide a commentary on its possible future impact. For example, there is emerging evidence globally that baby box programmes can increase the rates of attending ANC or giving birth at a health facility, which may save lives in contexts where these rates are traditionally low. Baby box programmes may also provide psychosocial support for the mother

during the vulnerable time of childbirth. Beyond their potential to support families in their everyday lives, baby box programmes may also be valuable in contexts where families have been forced to flee their homes, such as natural disasters or refugee camps. In addition to our findings, we also discuss high-interest topics surrounding the baby box, including safety issues. Ultimately, we intend for our report to serve as an overview of baby box programmes and a foundation for further research, as well as a reference for those interested in the topic or aiming to implement or evaluate a baby box programme themselves.

The baby box is not a one-size-fits-all solution to intricate health challenges. However, it offers significant health and social gains, especially for those who are commonly the most vulnerable in communities: mothers and babies.

Tiivistelmä

Äitiyspakkaus on sosiaalinen innovaatio. Se on raskaana oleville annettava pakkaus, joka sisältää vauvanvaatteita sekä muita vastasyntyneen ja koko perheen hyvinvoinnin kannalta tarpeellisia tuotteita. Suomessa äitiyspakkauksen on vuodesta 1949 alkaen voinut saada jokainen raskaana oleva edellyttäen, että hän osallistuu neuvolan terveystarkastuksiin. Äitiyspakkaus on nyky-Suomessakin tärkeä sosiaalinen etuus. Jopa 95% ensisynnyttäjistä valitsee äitiyspakkauksen vaihtoehtoisen rahallisen äitiysavustuksen sijaan.

Tiedetään, että erilaisia äitiyspakkausohjelmia on käynnistetty eri puolilla maailmaa, mutta niiden toteutustavoista on vain vähän tutkimustietoa. Saadaksemme tietoa erilaisista äitiyspakkauksista toteutimme maailmanlaajuisen kartoituksen, jonka tulokset esitämme tässä raportissa. Esittelemme, mistä äitiyspakkausohjelmissa on kyse, ja kerromme, millaisia erilaisia toteutustapoja ja tavoitteita niille on asetettu äitien ja lasten terveyden ja hyvinvoinnin edistämiseksi eri puolilla maailmaa.

Raportti kartoittaa 91 äitiyspakkausohjelmaa ja tarkastelee 29:ää ohjelmaa perusteellisemmin. Äitiyspakkausohjelmia löytyy niin korkean, keskitason kuin matalankin tulotason maista. Äitiyspakkausohjelmat ovat joko julkishallinnon, voittoa tavoittelemattomien järjestöjen, YK:n toimielinten, sairaaloiden tai akateemisten instituutioiden johtamia. Vaikka käytämme yhtenäisyyden vuoksi laatikkoon viittaavaa englanninkielistä termiä *baby box*, jotkut raportissa mukana olevat äitiyspakkausohjelmat käyttivät laatikon sijaan pakkauksenaan esimerkiksi koria tai kassia. Tutkimuksessa on mukana yhtäältä pieniä projekteja, jotka kohdistuivat tiettyihin haavoittuvassa asemassa oleviin väestönosiin, ja toisaalta valtakunnallisia, kaikille raskaana oleville suunnattuja vakiintuneempia palvelukokonaisuuksia. Ohjelmilla oli monenlaisia tavoitteita, kuten lasten tai äitien kuolleisuuden vähentäminen, vastasyntyneiden ja äitien hyvinvoinnin edistäminen, perheiden taloudellisen taakan lievittäminen, vanhemmuuden tukeminen, terveys- ja tukipalvelujen käytön edistäminen, paikallisten yhteisöjen vahvistaminen tai eriarvoisuuden vähentäminen. Äitiyspakkauslaatikko ja sen sisältämät tuotteet, samoin kuin ohjelmiin usein liittyvä neuvonta ja koulutus (esim. kirjasen tai ryhmäneuvolatyyppisen tilaisuuden muodossa), tarjosivat perheille konkreettista tukea. Tavoitteisiin pyrittiin myös äitiyspakkauksen saamiseen asetetuilla ehdoilla, kuten sillä, että raskaana olevan tulee osallistua raskaudenaikaisiin terveystarkastuksiin.

Äitiyspakkausohjelmien hyödyt ja vaikuttavuus ovat ajankohtaisia, laajaa kiinnostusta herättäviä kysymyksiä. Äitiyspakkauskonseptin vaikuttavuudesta on kuitenkin mahdotonta antaa yksiselitteistä arviota, sillä ohjelmilla oli toisistaan poikkeavia tavoitteita, ja vain harvat niistä olivat mitanneet toimintansa vaikuttavuutta järjestelmällisesti. Pyrimme vastaamaan tiedontarpeeseen tarjoamalla yleiskatsauksen äitiyspakkausten hyötyihin ja tulevaisuuden mahdollisuuksiin äitien ja vastasyntyneiden hyvinvoinnin edistämisessä. On alustavaa näyt-

töä siitä, että äitiyspakkausohjelmat voivat lisätä esimerkiksi raskaudenaikaisissa terveystarkastuksissa käyntiä tai klinikalla synnyttävien osuutta. Äitiyspakkaus voi siis pelastaa ihmishenkiä olosuhteissa, joissa edellä mainittujen terveystarvelajien käyttö on muuten vähäistä. Äitiyspakkausohjelmat voivat myös tarjota äideille heidän tarvitsemaansa psykososiaalista tukea. Ohjelmilla tuetaan perheitä heidän arjessaan, mutta niistä voi olla hyötyä myös poikkeusoloissa, kuten luonnonkatastrofeissa tai pakolaisleireillä. Raportti käsittelee myös kansainvälisen lehdistön äitiyspakkauskustelujen teemoja, kuten äitiyspakkauksen turvallisuutta. Raportin tavoite on tarjota yleiskatsaus äitiyspakkausohjelmiin, luoda perustaa jatkotutkimuksille ja toimia suunnannäyttäjänä aiheesta kiinnostuneille ja erityisesti niille, jotka haluavat suunnitella tai arvioida oman äitiyspakkaushankkeensa.

Äitiyspakkaus ei ole patenttiratkaisu monitahoisiin terveyden ja hyvinvoinnin haasteisiin. Äitiyspakkauskonsepti tarjoaa kuitenkin myönteisiä sosiaalisia näkökohtia ja terveys-
hyötyjä etenkin vastasyntyneille ja heidän äideilleen, eli niille, jotka usein ovat yhteisöissä kaikista haavoittuvimmassa asemassa.

Sammandrag

Moderskapsförpackningen är en social innovation. Den består av ett urval babykläder och andra nödvändiga produkter som delas ut åt gravida för att stöda bebisens och hela familjens välmående. Sedan 1949 har varje gravid kvinna i Finland kunnat få en moderskapsförpackning förutsatt att hon deltar i mödrarådgivningens hälsoundersökning. Moderskapsförpackningen är än idag en viktig social förmån i Finland. Hela 95 % av förstföderskorna väljer moderskapsförpackningen istället för att ta emot ett moderskapsunderstöd i form av pengar.

Program med moderskapsförpackningar har inletts på olika håll i världen men det finns mycket litet forskning om hur programmen genomförts. För att få information om de olika moderskapsförpackningarna genomförde vi en världsomfattande kartläggning vars resultat sammanfattas i denna rapport. Vi presenterar idén bakom moderskapsförpackningarna och berättar hur programmen genomförts samt hurdana målsättningar som satts upp för att öka välmåendet hos mödrar och barn runt om i världen.

Rapporten omfattar 91 moderskapsförpackningar och 29 av dem granskas grundligare. Moderskapsförpackningar finns i länder med såväl hög, medelhög som låg levnadsstandard. Moderskapsförpackningarna administreras antingen av staten, ideella organisationer, FN:s organ, sjukhus eller akademiska institutioner. För enhetlighetens skull använder vi den engelskspråkiga termen baby box som syftar på en låda, även om moderskapsförpackningarna som omfattas av rapporten också kan vara förpackade i exempelvis korgar eller kassar. Forskningen omfattar å ena sidan mindre program, som riktar sig till en specifik, sårbar befolkningsgrupp, och å andra sidan nationella, mer etablerade serviceenheter riktade till samtliga gravida. Programmen hade olika målsättningar, så som att minska barnadödlighet eller mödradödlighet, att främja välmåendet hos nyfödda och föderskor, att minska den ekonomiska bördan för barnfamiljer, att stöda föräldraskapet, att främja användningen av hälso- och sjukvård samt stödtjänster, att stärka lokala grupper eller minska ojämlikheten. Moderskapsförpackningen och de produkter den innehöll, liksom den rådgivning och utbildning som ofta ingick (t.ex. i form av informationshäfte eller gruppträffar) erbjöd familjerna ett konkret stöd. Ett sätt för att uppnå målsättningarna var att ställa villkor för vem som kan få en moderskapsförpackning, exempelvis att den gravida ska delta i hälsoundersökningar under graviditeten för att få moderskapsförpackningen.

Fördelarna med moderskapsförpackningen och dess inverkan är aktuella frågor som väcker stort intresse. Det är ändå omöjligt att ge en entydig bedömning av moderskapsförpackningens inverkan, eftersom de olika programmen hade olika målsättningar och få av dem hade mätt verksamhetens resultat systematiskt på grund av begränsade resurser. Vi strävar att svara på intresset genom att erbjuda en allmän översikt över fördelarna med moderskapsförpackningen och dess framtida möjligheter för att främja välmåendet hos mödrar

och nyfödda. Enligt preliminära uppgifter kan moderskapsförpackningen öka exempelvis andelen gravida som deltar i hälsoundersökningar och som föder på klinik. Moderskapsförpackningen kan alltså rädda människoliv i förhållanden där de nämnda hälsojänsterna inte används i stor utsträckning. Programmen med en moderskapsförpackning kan också erbjuda mödrarna det psykosociala stöd de behöver. Programmen strävar till att stöda familjer i deras vardag men programmen kan göra nytta även vid undantagsförhållanden, som vid naturkatastrofer eller på flyktingläger. Rapporten behandlar också de teman som internationell media uppmärksammat beträffande moderskapsförpackningen, bland annat säkerhetsaspekterna. Rapportens syfte är att erbjuda en allmän översikt över programmen med en moderskapsförpackning, lägga grunden för fortsatt forskning och visa vägen för dem som är intresserade av ämnet och framför allt dem som önskar planera eller bedöma ett eget program med en moderskapsförpackning.

Moderskapsförpackningen är ingen patentrösning för de mångfacetterade utmaningarna inom hälsa och välmående. Den erbjuder ändå sociala fördelar och positiva hälsoeffekter för nyfödda och deras mödrar, en grupp som ofta hör till de mest sårbara i ett samhälle.

Acknowledgements

We would like to acknowledge the invaluable contributions of the individuals from the participating baby box programmes who generously offered their time and comments throughout the interviews. In spite of time differences, technical challenges, tight budgets and schedule constraints, these individuals made a dedicated effort to give insightful reflections on their challenges as well as their successes. We believe this reflects a sincere and selfless desire to improve the lives of mothers and babies. It was an honour to work with these programmes, to hear their stories, to share their experiences, and to be inspired by the innovation, collaboration and hard work of baby box programmes around the world.

In particular, we would like to thank Professor Emerita Anneli Milén of Tampere University. Her support has guided this project with precision through its many twists and turns, and her comments have shaped this report to its most impactful and valuable form. As both a social and medical scientist, her guidance has allowed us to consider multiple points of view in this report. Not only has she supported our project from day one, but even after her recent retirement she was still available to offer her valuable comments and feedback. Her commitment to improving the lives of others clearly extends beyond a career: it is personal and unwavering, and a constant source of inspiration to our team. In this project and others, we are truly grateful to her.

We would like to extend special thanks to our support team from Tampere University, especially Professor, Dean Juho Saari. This project has greatly benefited from his support and guidance. Additionally, we would like to thank Hanna Kosonen, Ulla Laitinen and Anni Laitinen from Tampere University for their valuable time and input on this report.

We would like to extend a special thanks to Research Manager, Docent Karoliina Koskenvuo from The Social Insurance Institution of Finland for contributing her vast knowledge and expertise regarding the history of the Finnish baby box, especially from the public health perspective. We would also like to thank Docent Turkka Kirjavainen for contributing his knowledge on SIDS and safe sleeping practices and his valuable comments on our report.

Finally, our sincerest gratitude is extended towards President Tarja Halonen, alternate Co-Chair for Every Woman, Every Child, for taking time to meet with our team and discuss this project, as well as her kind encouragement and interest. We would also like to thank the Mannerheim League for Child Welfare Research Foundation (Mannerheimin Lastensuojeluliiton tutkimussäätiö) and the Committee for Public Information (Tiedonjulkistamisen neuvottelukunta) in Finland for funding this study and report, respectively. We are honoured to have received their assistance.

Contents

List of figures	12
List of tables.....	13
List of programme overviews.....	13
List of insights	13
Abbreviations.....	14
1 INTRODUCTION.....	15
2 BACKGROUND.....	18
3 THE BABY BOX IN FINLAND	22
3.1 History of the Finnish baby box	22
3.2 The role of the Finnish baby box in promoting public health	25
3.3 The Finnish baby box today.....	28
4 BABY BOXES AROUND THE WORLD	31
4.1 Programme locations.....	31
4.2 Programme focus areas	33
4.3 Conditional baby boxes as an incentive for behaviour change.....	35
4.4 Intended beneficiaries.....	36
4.5 Programme organisers.....	37
4.6 Programme funding models	41
5 THE BABY BOX AS A SLEEPING PLACE	42
5.1 Types of baby box containers used as sleeping spaces	42
5.2 Designing and sourcing the box.....	44
6 BABY BOX CONTENTS.....	45
6.1 Selecting the items.....	45
6.2 Sourcing the items.....	48
6.3 Common baby box items.....	48
6.4 Breastfeeding items.....	49
6.5 Medical and clean delivery items	50
6.6 Contraceptive items.....	51

7	BABY BOX AS AN EDUCATION TOOL	52
7.1	Educational topics	52
7.2	Channels of health education	53
7.3	The most common educational topic: breastfeeding	53
8	BABY BOX IMPLEMENTATION ISSUES	57
8.1	Funding	57
8.2	The selection and sourcing of the box and items	58
8.3	Logistics	60
8.4	Human resources	61
8.5	Evaluation	62
9	CONVERSATIONS	65
9.1	Baby boxes, safe sleeping and sudden infant death syndrome (SIDS)	65
9.2	Baby boxes as in-kind transfers to enhance social protection	68
9.3	Baby boxes, gender and maternal health	70
9.4	Baby boxes' potential in humanitarian emergencies	73
9.5	The role of baby boxes in promoting children's rights	75
10	CONCLUSIONS AND RECOMMENDATIONS	78
10.1	Discussion	78
10.2	Recommendations for baby box programmes	82
10.3	Conclusion	83
	REFERENCES	84
APPENDIX 1	Methodology employed in the Thinking Outside the Box study	94
APPENDIX 2	Other types of maternity packages and baby boxes	100
APPENDIX 3	Finnish baby box contents	102
APPENDIX 4	Global baby box contents	104

List of figures

Figure 1. Social protection coverage (by at least one social protection benefit) in different regions of the world by population group (percentage).

Figure 2. Infant deaths per 1,000 live births from 1900–2015.

Figure 3. The child and parental benefits and allowances paid by the Social Insurance Institution of Finland (Kela) in 2019 (approximately 2.7 billion EUR budget in total).

Figure 4. The global map of baby box programmes mapped and interviewed.

Figure 5. Focus areas around which baby box programmes developed their aims.

Figure 6. The pathways through which baby box programmes intended to achieve their aims. Data based on the analysis of the 29 interviewed programmes.

Figure 7. Proportions of interviewed baby box programmes by operation time, calculated by July 2018.

Figure 8. Proportions of interviewed programmes by number of boxes delivered in 2017.

Figure 9. Packaging containers used in baby box programmes.

Figure 10. Proportions of interviewed programmes by the stage of life the baby box items support.

Figure 11. Number of interviewed programmes by categories of items included in their baby boxes.

Figure 12. Contents of a basic clean delivery kit.

Figure A1. Number of interviewed programmes by baby clothing items included in their baby boxes.

Figure A2. Number of interviewed programmes by type of baby sleep items included their baby boxes.

Figure A3. Number of interviewed programmes by hygiene and personal care items included in their baby boxes.

Figure A4. Number of interviewed programmes by baby toys and books included in the baby box.

Figure A5. Number of interviewed programmes by topics covered in parenting information materials included in the baby box.

Figure A6. Number of interviewed programmes by breastfeeding or feeding related items included in their baby boxes.

Figure A7. Number of interviewed programmes by medical and clean delivery items included in their baby boxes.

Figure A8. Number of interviewed programmes by contraceptive items included in their baby boxes.

List of tables

Table 1. Number of mapped and interviewed baby box programmes in different world regions.

Table 2. Number of identified and interviewed baby box programmes run by different types of organisations.

Table A1. Finnish baby box items, 2020.

List of programme overviews

Programme overview 1. Scotland, UK.

Programme overview 2. Colombia.

Programme overview 3. Alaska, US.

Programme overview 4. South Asia.

Programme overview 5. Canada.

Programme overview 6. Sierra Leone.

List of insights

Selecting the right items in developing settings

Why is breastfeeding important?

Challenges in planning and implementation

Risk factors and protective factors for SIDS

Are baby boxes safe?

The baby box as an incentive

Baby boxes at the centre of political negotiations

The men behind pregnancy-related problems

Baby box and children's rights in prison

Abbreviations

AAP: The American Academy of Pediatrics

ANC: Antenatal care

CCT: Conditional cash transfer

DVD: Digital versatile disc

HIV: Human immunodeficiency virus

Kela: The Social Insurance Institution of Finland

MCH: Maternal and child health

ORS: Oral rehydration salts

SIDS: Sudden infant death syndrome

SUID: Sudden unexpected infant death

UN: United Nations

WHO: World Health Organization

1 INTRODUCTION

Despite the progress towards child and maternal wellbeing worldwide, many fundamental challenges remain. This report introduces the baby box, a social innovation that has been proposed as a potential solution to some of these challenges. In its basic form, the baby box is a maternity package which includes baby clothes and other items for expectant mothers or caregiver(s) to promote the wellbeing of the baby and family. While the baby box (officially *maternity package*, *äitiyspakkaus* in Finnish, *moderskapsförpackningen* in Swedish) has been a part of everyday life for Finnish families with babies for over 70 years, recently, the baby box has received international attention that merits a more careful and systematic discussion. Our report presents adaptations of the baby box concept implemented in different parts of the world and highlights how it can be, and has been, adapted to serve different purposes in various social and cultural environments.

In Finland, the government began to provide baby boxes for disadvantaged mothers in 1938. In 1949, the Finnish baby box programme was implemented more widely as a conditional grant. Since then, all expectant mothers who permanently reside in Finland have received the baby box for free, regardless of income, under the condition that they participate in antenatal care (ANC) by the end of the fourth month of pregnancy. The box itself can be used as the baby's first bed. Not only has the baby box provided families with useful material assistance, such as baby clothes, but it has also encouraged pregnant women to attend public health clinics for ANC. Currently, Finland enjoys one of the lowest maternal and infant mortality rates in the world. The baby box could be considered as one of the historical contributors to this success, particularly through requiring expectant mothers to attend antenatal clinics in a timely fashion and providing key items to those who needed them.

The Finnish baby box has received international attention, particularly as the Government of Finland has promoted it and gifted the baby box to international dignitaries. BBC's article "Why Finnish babies sleep in cardboard boxes"(2013) further fuelled international interest, sparking locally adapted baby box interventions in multiple countries. There is, however, no information about how many adaptations have been made, how they differ from the original concept, and what the programmes' aims are. Therefore, we mapped baby box programmes globally to highlight useful adaptations and inform future implementers of such programmes. The methods of our study, *Thinking Outside the Box*, can be found in Appendix 1.

In *Thinking Outside the Box*, we examined several key components of international baby box programmes. As there is no commonly accepted definition of a "baby box", for the purpose of this report we defined the baby box as follows: the baby box (or the maternity package) is a material form of support given to an expectant mother or caregiver(s) to promote the wellbeing of baby and family.

The baby box programmes we chose to study are consistent with that definition in that the word “given” carries an implicit meaning that the package has minimal or no cost to the receiver. With the word “support”, we wish to convey the idea that the programmes we are interested in are intended to support the wellbeing of the baby box receivers, wellbeing understood in its widest meaning. There are also commercial actors who sell baby boxes for profit or use them primarily for product branding and marketing purposes (see Appendix 2). For-profit baby boxes are not the focus of our study. “Material form of support” refers to tangible items, such as baby clothes, which makes a baby box different from, for instance, financial or psychosocial support. However, baby box programmes are significant beyond the included items, as most programmes have embedded guidance, health promotion and education. We find it impractical to attempt to include the number or the type of items in the definition of the baby box, as these are context-specific details. Finally, the baby box is habitually given to an “expectant mother” or other caregiver before or near the birth of the baby so that the family can get the most use out of it. These features make the baby box unique in comparison to other forms of assistance or social protection.

We mapped 91 programmes and purposefully selected 29 of them for further study. From these 29 programmes, we surveyed and interviewed programme representatives to determine:

- programme aims, such as improving ANC attendance, or giving all families an equal start when having a baby
- mechanisms for achieving these aims, such as implementing conditions for receiving a baby box
- beneficiaries of the baby box programmes and their criteria and coverage, such as including all families nationally or locally or targeting specific groups
- provider types, such as government, non-profit, or charity
- items included in the baby boxes and their functions, such as baby clothes and toys, as well as health education materials or clean delivery items
- common implementation issues, such as financial sustainability.

Based on these interview and survey findings, we explore the potential of the baby box to address issues around social protection, gender issues and maternal health, and children’s rights, as well as the utility of the baby box in natural disasters and refugee settings. We also discuss high-interest topics surrounding the baby box, including its potential impact in wellbeing, safety issues and SIDS.

We hope that this report can be used in multiple ways, including as a baseline mapping of global baby box programmes and an information source for parents and individuals interested in knowing more about the baby box. We also intend for these findings to be a source of guidance for organisations planning to initiate a baby box project, as well as an opportunity for various baby box implementers to reflect on their own programmes. Finally, this report can also be used as an initial reference base for researchers interested in the baby box in the broader context of maternal and child wellbeing.

To many, the baby box is both a symbol of the appreciation of the vital need to support mothers and infants and a message that every life should be celebrated. Here, we explore the global significance of not only a physical box but also the intangible idea that all babies are valuable and deserve the best possible start. Baby boxes can help improve the health of mothers and children, which is an unequivocal human right, and support their wellbeing. Additionally, beyond the box itself, baby box programmes may unite global communities around a common hope that innovation and collaboration will establish a brighter future for the world's most vulnerable citizens.

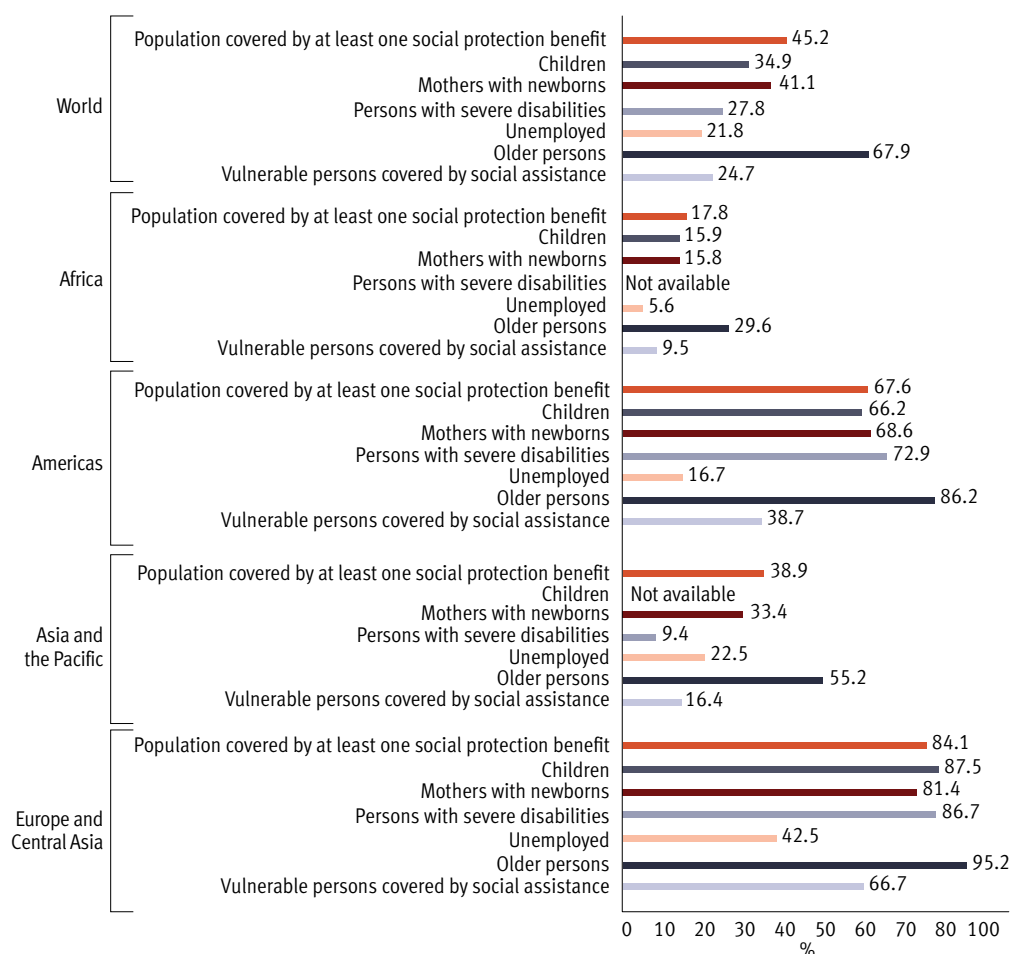
2 BACKGROUND

Throughout their lives, women are susceptible to gender-specific risks in their health and wellbeing and face more obstacles than men in maintaining a secure life. This is due to gender inequality, social norms and maternity. (UN, 2018.) In many parts of the world, pregnancy and delivery represent an especially dangerous time in a person's life: According to UN estimates, 303,000 people die each year in childbirth or as a result of complications arising from pregnancy (Alkema et al., 2016). This means that every day, approximately 830 people die from causes related to pregnancy and childbirth. Most of these deaths are preventable (WHO, 2018). In addition, 15–20 million people worldwide suffer from illnesses and disabilities related to maternity every year (Koblinsky et al., 2012).

Children, too, are inherently vulnerable, particularly during infancy (UN, 2018). Globally, progress has been made in reducing infant mortality rates, yet over 4 million babies did not survive their first year in 2017 (WHO, 2019). The first 1,000 days of life – the time roughly between conception and a child's second birthday – is considered a unique period of opportunity in a child's development when the foundations of optimum health, growth, and neurodevelopment are established for life (Cusick and Georgieff, 2016). Healthy early childhood development – including physical, social, emotional, linguistic and cognitive domains of development, each equally important— strongly influences lifelong wellbeing, obesity or stunting, mental health, heart disease, literacy competency and numeracy, risk for criminal behaviour, and economic participation (Irwin, Siddiqi and Hertzman, 2007).

Maintaining the health and wellbeing of mothers and babies requires robust health services and mothers who are willing and able to access them. It also requires strong social services that can provide financial and nonfinancial support when it is most needed. Women are often economically more vulnerable than men. In general, women earn less than men, are more likely to work in the informal economy or be in casual, temporary or part-time employment, and have lower participation in the labour market than men (ILO, 2018a; ILO, 2018b). Social protection measures can level the playing field, yet only 45% of the global population is effectively covered by at least one form of social protection (Figure 1, p. 19).

The lack of social protection coverage is particularly acute in low- and middle-income settings, where relative and absolute poverty are also more prevalent. These settings often have low rates of facility births and low or late ANC attendance. Giving birth at a health facility is important, as it contributes towards pregnant women being attended to by skilled personnel. It also links pregnant women to a referral system in case of complications, reducing maternal and perinatal mortalities (WHO, 2016). Early access to ANC may prevent or help anticipate many adverse health outcomes, such as prematurity, fetal growth restriction, congenital abnormalities or asphyxia (EBCOG, 2015).



Note: Population covered by at least one social protection benefit (effective coverage): Proportion of the total population receiving at least one contributory or non-contributory cash benefit, or actively contributing to at least one social security scheme.

Children: Ratio of children/households receiving child/family cash benefits to the total number of children/households with children.

Mothers with newborns: Ratio of women receiving maternity cash benefits to women giving birth in the same year.

Persons with severe disabilities: Ratio of persons receiving disability cash benefits to the number of persons with severe disabilities.

Unemployed: Ratio of recipients of unemployment cash benefits to the number of unemployed persons.

Older persons: Ratio of persons above statutory retirement age receiving an old-age pension to the number of persons above statutory retirement age (including contributory and non-contributory).

Vulnerable persons covered by social assistance: Ratio of social assistance recipients to the total number of vulnerable persons (defined as all children plus adults not covered by contributory benefits and persons above retirement age not receiving contributory benefits (pensions)).

Sources: ILO, World Social Protection Database, based on the Social Security Inquiry (SSI); ILOSTAT; national sources.

Figure 1. Social protection coverage (by at least one social protection benefit) in different regions of the world by population group (percentage). Source: ILO, 2017.

In these disadvantaged contexts, the baby box can be an especially powerful tool to improve the uptake of different essential maternal health services. For example, trials conducted in Zambia and Papua New Guinea showed that providing pregnant women with a relatively inexpensive, locally relevant baby box effectively incentivised them to give birth at a health facility (Kirby, Mola, Case et al., 2015; Wang, Connor, Guo et al., 2016). In turn, the studies conducted in South Africa and Rwanda demonstrated the potential of baby boxes to incentivise mothers to attend ANC in a timely and frequent manner or to attend postnatal care (Rossouw, Burger and Burger, 2017; Shapira, Kalisa, Condo et al., 2017). Early access to ANC is particularly vital in South Africa because of the high prevalence of HIV. Early initiation of antiretroviral treatment is important for the prevention of vertical transmission of HIV from the mother to the infant (Moodley, Moodley, Sebitloane et al., 2016). Besides contributing to the survival of mothers and babies, some programmes also indicated the potential cost-effectiveness of the baby box. For instance, the 4 USD package provided in the trial in Zambia yielded an encouraging cost-effectiveness of 5,183 USD per death averted (Wang et al., 2016).

The potential of baby box programmes to save lives may be the greatest in the poorest countries, where there are issues in facility birth rates or ANC attendance. The scope of the baby box is, however, by no means limited to the most disadvantaged countries. First, there are large inequalities in perinatal and maternal health, not only between countries, but also within cities and population groups in both low- and high-income countries (de Graaf, Steegers and Bonsel, 2013). Second, there are special settings, such as refugee camps, in which the baby box can have a marked effect on wellbeing through more complex mechanisms than might be readily apparent. For instance, in Jordan, Syrian refugee women in the Za'atari camp produced maternity packages for pregnant mothers within the camp through a programme called Cash for Work. As aggression against women in the camp was linked to financial stress, providing economic opportunities for women through this programme led to encouraging results: out of the Cash for Work participants interviewed, 20% reported decreased domestic violence within the household (UN Women, 2016). Finally, baby boxes can also affect health in high-income countries: a programme in Canada provided a Canadian version of the baby box to families who participated in a parenting education and mentorship programme. This programme observed an improvement in maternal psychosocial health over the duration of the study (Benzies, Loewen and the Welcome to Parenthood study team, 2018).

This leads us to one of the key messages of our report: regardless of context, supportive measures that target different aspects of the physical, social and economic wellbeing of mothers can reduce obstacles that they face and have positive effects for them and their families. Tools that advance babies' survival and wellbeing during the most critical stages of their

development may have important benefits that last throughout their lives. The baby box is an innovative example of an intervention that can contribute to the wellbeing of both parents and babies. Historically, in Finland, the baby box has contributed towards the improvement of maternal and child health (MCH) and it has the potential to do the same in both low- and high-income settings, today.

Our story begins by describing the Finnish baby box and its origins.

3 THE BABY BOX IN FINLAND

The story of the baby box begins nearly 100 years ago, when Finland was taking its first steps as an independent country. Understanding the historical context in which the baby box was invented is vital to understanding the role of the baby box in enhancing wellbeing in Finland. This chapter explores the past and the present journey of the Finnish baby box, officially called the maternity package (see [the maternity package website](#)), setting the stage for reflection on baby box programmes in a variety of global settings.

3.1 History of the Finnish baby box

Around one century ago, Finland was an agricultural society and the majority of the population was living in poverty (Siipi 1967; Korppi-Tommola, 1990). The standard of living was low compared to other European countries in the early 20th century. For example, in 1925 the GDP per capita in the UK and Sweden was 75% and 25% higher, respectively, than in Finland (Hjerpe, 1989). Insufficient hygiene, tuberculosis and other epidemics were major public health concerns that contributed to high infant mortality rates (Korppi-Tommola, 1990; Haataja and Koskenvuo, 2017). Many families experienced a shortage of necessary items, such as clothes (Siipi, 1967).

Before universal health and social services were available in Finland, charity organisations played an active role in helping the poor. One of the very first charity organisations to help mothers and infants in Finland was the “Drop of Milk Association” (*Maitopisarayhdistys* in Finnish). In 1904, this organisation began providing donated breast milk to mothers who were not able to breastfeed their babies. To receive donated milk, the mother had to bring the baby for regular medical check-ups (Korppi-Tommola, 1990).

As the Finnish society developed over the years, the Mannerheim League of Child Welfare, a charity organisation promoting more comprehensive MCH, created the precursors of the current baby box in 1922 called “circulating baskets” (*kiertokorit* in Finnish) (Siipi, 1967; Korppi-Tommola, 1990). Volunteers sewed baby clothes and packed them with other necessities, such as linens and hygiene items, into baskets lent to mothers in need. The name “circulating baskets” referred to the baskets and their contents being used by more than one family. Volunteers maintained and laundered the contents of the baskets before they were given to the next recipient (Korppi-Tommola, 1990).

As the first versions of the baby box were being introduced, many other developments in maternal and infant healthcare, as well as economic developments, were taking place in Finland (Hakulinen and Gissler 2017). One of the first women’s shelters, called “Children’s Castle” (*Lastenlinna* in Finnish), was established in Helsinki in 1918 by Nurse Sophie Man-

nerheim, the founder of the Mannerheim League of Child Welfare. Mannerheim opened a shelter for single mothers who were vulnerable or had no other place to live. Soon, she extended the functions of the shelter to child healthcare services for families living in the neighbourhood. Mannerheim invited her trusted colleague, Arvo Ylppö, a young paediatrician and prominent future advocate for MCH, to perform medical check-ups for children and to advise mothers on childcare and hygiene issues alongside a nurse (Korppi-Tommola, 1990). In the area around the Lastenlinna clinic, infant mortality sank from 15% to 3% in just three years. This implies that the provision of basic healthcare services improved newborn health. (Haataja and Koskenvuo, 2017.) The excellent results from Lastenlinna boosted the development of a nationwide network of MCH clinics (*neuvola* in Finnish) (Korppi-Tommola, 1997).

Finland began its journey towards a welfare state after the civil war in 1918. The newly independent nation established a law requiring municipalities to support the poor in 1922. However, the provision of social security was thin, as municipalities were short on funding (Siipi, 1967). In the year following the establishment of the municipal maternity grant law in 1937, municipalities began to assume responsibility for supporting expectant moth-



Photo 1. The first version of the baby box was invented in 1922. Volunteers of the Mannerheim League of Child Welfare packed the “circulating baskets” with hand-sewn baby clothes and other necessities. Reproduced with permission of the Mannerheim League for Child Welfare.



Photo 2. The first governmental versions of the maternity grant were introduced in 1938 and given to underprivileged mothers only. Reproduced with permission of The Finnish Labour Museum Werstas.

ers (Korppi-Tommola, 1990; Koskenvuo, 2017). The grant, which can be considered the second precursor to the current Finnish baby box, was only available to disadvantaged mothers when it was first introduced (Siipi, 1967). Municipal social welfare committees decided who was eligible for the grant and what form of the grant they received: cash, care items, or both (Taskinen, 2014). The care items were packaged in a cardboard box from 1942 onward. The box, along with the included mattress, was designed to be used as the newborn's first bed.

The maternity grant was conditional: to be eligible for the grant, expectant mothers needed to visit a maternity health clinic where they received advice on issues related to pregnancy, childbirth, and childcare free of charge (Haataja and Koskenvuo, 2017; Hakulinen and Gissler, 2017). However, maternal healthcare services were not readily available in all parts of Finland until a law was passed in 1944 requiring all Finnish municipalities to organise MCH clinics (Korppi-Tommola, 1990; Vuorenkoski, Mladovsky and Mossialos, 2008). By the time the maternity grant became available to all mothers in 1949, maternal health clinics had been widely established across the country (Taskinen, 2014). Prioritizing investments

in maternal and child healthcare services was a notable achievement, as Finland was at war when the law was passed (Hakulinen and Gissler, 2017).

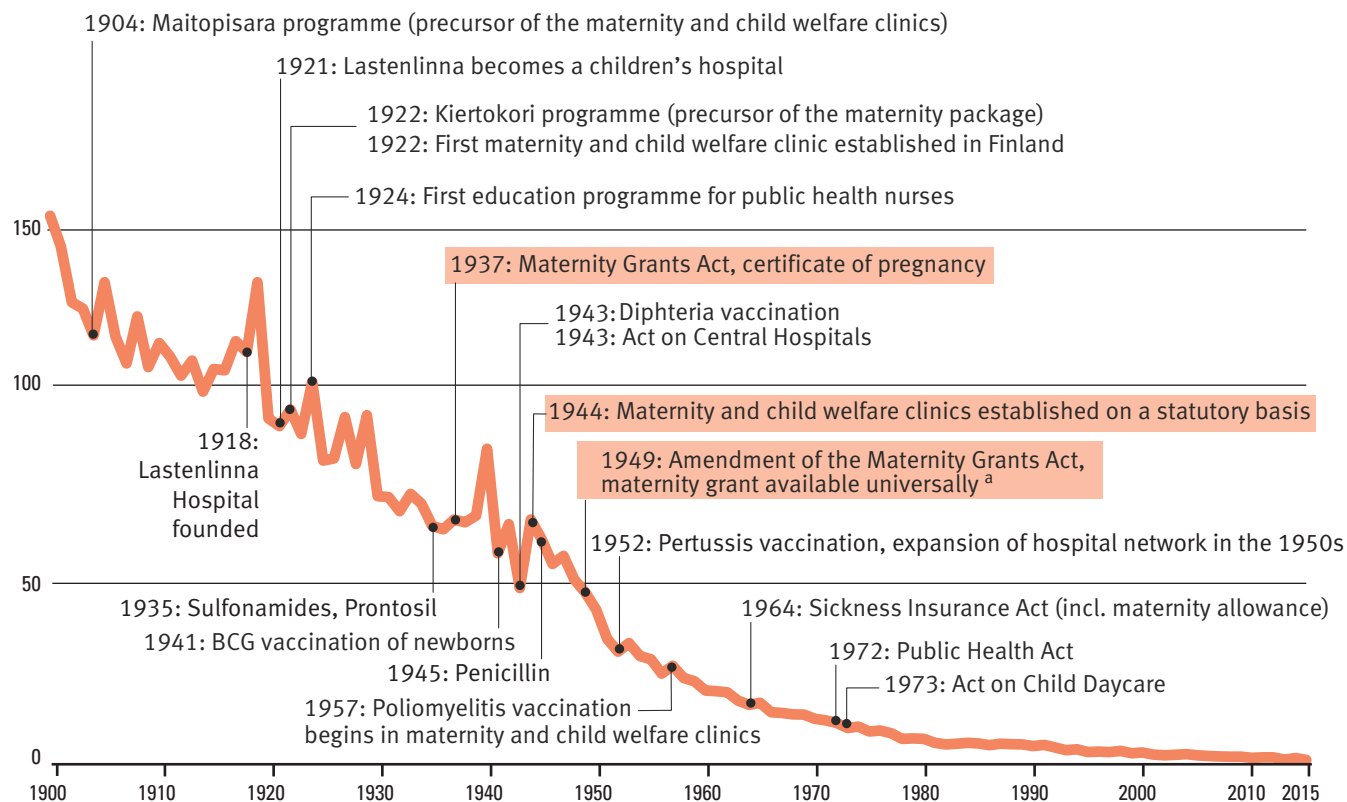
In the 1980s, the responsibility for organising and distributing the baby boxes was shifted from the municipalities to the National Board of Social Welfare (now the National Institute for Health and Welfare) and the Government Purchasing Centre (Taskinen, 2014). Since 1994, the maternity grants scheme has been administered by The Social Insurance Institution of Finland (Kela) (Haataja and Koskenvuo, 2017).

3.2 The role of the Finnish baby box in promoting public health

The Finnish baby box has received international attention, especially regarding its role in enhancing public health and lowering infant mortality in Finland. However, it is difficult to determine what role the baby box has played, as there are many societal factors which have influenced public health and infant mortality over the years (Haataja and Koskenvuo, 2017). No research has been conducted that would allow for isolating the impact of the baby box from these other factors. Today, it would be difficult to conduct such research, as the baby box has long been in use and almost all families with children have received it. (Hakulinen and Gissler, 2017.) Nevertheless, it is meaningful to place the baby box in its historical context and analyse it as an important component of wider societal change (Koskenvuo, 2017).

Multiple factors have played a role in decreasing infant mortality in Finland, including advancements in hygiene, nutrition, education, general standard of living, and social policies supporting families (see Figure 2, p. 26). Further, the development of antibiotics, the adoption of nation-wide vaccination programmes and the creation of a comprehensive hospital network during the period of 1930–1950 were major advancements contributing to better health (Koskenvuo, 2017; Haataja and Koskenvuo, 2017). Finland's low infant mortality is also due in part to the strong emphasis placed on maternal and child healthcare services (Vuorenkoski, Mladovsky and Mossialos, 2008; Hakulinen and Gissler, 2017). All of these developments have had an influence on lowering infant mortality, which was as high as 153 deaths per 1,000 live-born children in 1900 (Hakulinen and Gissler, 2017; Koskenvuo, 2017). It dropped significantly to 75/1,000 in 1930 and 21/1,000 in 1960. Today, the infant mortality rate in Finland is only 2/1,000 live-born children, which is one of the lowest in the world (Statistics Finland, 2018).

Outside of infant mortality, the role of the baby box in enhancing public health in Finland is similarly difficult to pinpoint. However, historically, there are three areas in which the baby box likely influenced public health. First, the significance of the baby box in enhancing public health and wellbeing is profoundly connected to the baby box programme's link to check-ups and healthcare services (Koskenvuo, 2017). Experts agree that the baby box



Source: Karoliina Koskenvuo 2017

^a A visit to a physician, a midwife or a municipal maternity clinic before the fourth month of pregnancy was set as a condition for the receipt of a maternity grant.

Figure 2. Infant deaths per 1000 live births from 1900–2015 (adopted from Koskenvuo, 2017).

has acted as an important incentive for mothers to attend antenatal healthcare (Taskinen, 2014). Related to the use of the baby box as an incentive, there is evidence that conditional programmes may influence shifts in social norms surrounding maternal health behaviours (Sidney, Tolhurst, Jehan et al., 2016). It is possible that the Finnish baby box programme contributed to the establishment of participation in ANC as the norm in Finland. Second, the goals of the Finnish baby box programme included alleviating the financial stress of low-income mothers and levelling out financial inequality. The baby box was an important social benefit, as there was a genuine need for baby clothing, bed linens and a clean place for the baby to sleep (Taskinen, 2014; Koskenvuo, 2017). Finally, during World War II many families lived in crowded, temporary housing. The baby's risk of catching infectious diseases was reduced partly thanks to having a separate sleeping space (Ahmala, Lauronen and Ukkonen, 2014; Haataja and Koskenvuo, 2017). While not scientifically evaluated, these historical ar-

Photo 3. The public policy of post-war Finland reflected a need to reduce infant mortality, support families and encourage them to have children. These values were mirrored in the baby box program. For example, the booklets in the baby boxes aimed to convey both childcare information and ideal models of childcare and motherhood (Särkelä, 2013; Koskenvuo, 2017). Reproduced with permission of The Finnish Labour Museum Werstas.



eas of influence are still valuable to consider for modern-day baby box programmes around the world.

3.3 The Finnish baby box today

According to Kela, the baby box remains a highly appreciated social benefit for expectant families (Haataja and Koskenvuo, 2017). It has become a shared experience connecting generations. As the baby box is given to rich and poor families alike, the programme endorses the idea that all babies should have an equal start in life. The Finnish baby box has been described as a social innovation (Taskinen, 2014), which symbolises the values of shared responsibility and social cohesion within the Finnish society (Smirnova, 2018). An egalitarian approach is also reflected through the notion that the colours of the items are gender neutral (Smirnova, 2018). While nearly all Finnish mothers attend maternal healthcare regardless of whether they choose the baby box, the box is still regarded as an important benefit for families (Haataja and Koskenvuo, 2017).



Photo 4. Today's version of the Finnish baby box includes over 50 different items. It is sourced and distributed by the Social Insurance Institution of Finland (Kela) and it is available to all expecting mothers, provided they attend maternal healthcare. © Veikko Somerpuro / Kela.

The Finnish baby box contains baby clothes and personal care products for the parents, as well as care items for the baby. While the range of items has remained largely consistent, the patterns are updated yearly in response to feedback from clients (Kela, 2019). The 2020 version of the baby box contains 56 items, most of which are baby clothes. It also includes a mattress, a sleeping bag, a blanket, a duvet, bedding and linen, a towel, muslin squares, a bib and the following care items: a thermometer, a bath thermometer, toothbrush, nail scissors and a hair brush for the baby as well as condoms, lubricant, breast pads, nipple cream and sanitary towels for the mother (see Appendix 3 for the full list). Even today, 37% of parents use the box as a sleeping space for their baby and in Finland it is considered to be a hygienic and safe bed for the infant (Haataja and Koskenvuo, 2017; Hakulinen and Gissler, 2017).

The Finnish baby box is available solely as a benefit offered under the Finnish social security system and is not commercially available. The items are sourced through a public tendering process conducted in accordance with EU law (Kela, 2019). Items are selected based on best value, which takes into account both price and quality. The suppliers must confirm that the employees producing the products are above the minimum working age. However, a recent report by Finnwatch has raised questions on the conduct of the supplier subcontractors concerning working hours, decent wages and work safety. Kela is cooperating with Finnwatch and has included new criteria related to social responsibility and decent working conditions in their latest round of bidding (Finnwatch, 2019).

Each year, Kela awards around 50,000 maternity grants, about 35,000 of which are provided in the form of a baby box. Nearly all (95%) first-time mothers choose the box instead of an alternative cash grant (Haataja and Koskenvuo, 2017). The box together with its items is more valuable than the cash grant of 170 EUR, and two-thirds of parents who have already received the box still select the box over the cash. Among parents who choose the cash grant, 94% have received a baby box before and already owned the basic necessities included in the box (Bogdanoff and Hämäläinen, 2011).

The maternity grant (the baby box or the alternative cash grant) is only one form of support available for families with children in Finland. The annual public spending on baby boxes and maternal cash grants adds up to approximately 9.8 million EUR, which accounts for 0.4% of Kela's total spending on child and parental benefits and allowances (Haataja and Koskenvuo, 2017; Kela, 2020). (Figure 3, p. 30.)

Spending on maternity grants, including maternity packages (i.e. baby boxes), is only a small portion of Finland's annual budget for child and parental benefits and allowances. According to a survey among Finnish parents, receiving the baby box is a useful and important tradition (Bogdanoff and Hämäläinen, 2011). Many Finns feel that the baby box has social, psychological and symbolic significance beyond its monetary value. Even though the

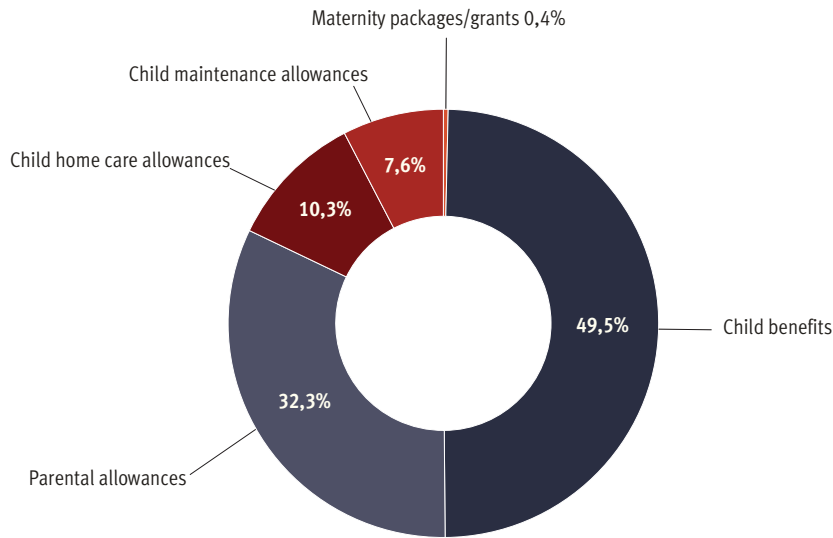


Figure 3. The child and parental benefits and allowances paid by the Social Insurance Institution of Finland (Kela) in 2019 (approximately 2.7 billion EUR budget in total)

baby box is a form of social support, many parents consider it to be a gift (Bogdanoff and Hämäläinen, 2011). The Finnish baby box is a shared experience that bridges generations and has become a part of Finland's national identity (Smirnova, 2018). Internationally, the baby box can be seen as an advocate of Nordic welfare and egalitarianism: it is a universal benefit to all families that values and celebrates the life of every child.

Now that we have explored the story of the Finnish baby box, the next chapter begins a new story: that of the baby box internationally and its adaptation and implementation around the world.

4 BABY BOXES AROUND THE WORLD

Despite progress over the past decades, in many parts of the world families and children live in conditions that do not support their wellbeing around the crucial time of childbirth. In our study *Thinking Outside the Box*, we identified 91 baby box programmes operating in 63 countries, which we herein call “mapped programmes”. Among them, we studied 29 programmes in-depth via surveys and interviews, which we herein call “interviewed programmes”. All of the identified programmes aimed to positively contribute to different aspects of the wellbeing of mothers and babies through the baby box concept. In this chapter, we present the global distribution of baby box programmes, the focus areas of the programmes and the pathways these programmes used to reach their goals. We also explore the conditions for receiving the box in conditional programmes, identify different types of target groups and outline the various actors that run baby box programmes. Our methods of searching and selecting programmes for interviews, as well as other details of the *Thinking Outside the Box* study, are described in Appendix 1.

4.1 Programme locations

The baby box programmes we identified were distributed across the world (Table 1, p. 32). Occasionally, a single organisation operated multiple baby box programmes in different countries. In some of these cases, the programmes were similar enough to identify as one single “multi-region” programme. In other cases, the programmes were distinct enough to count as separate entities.

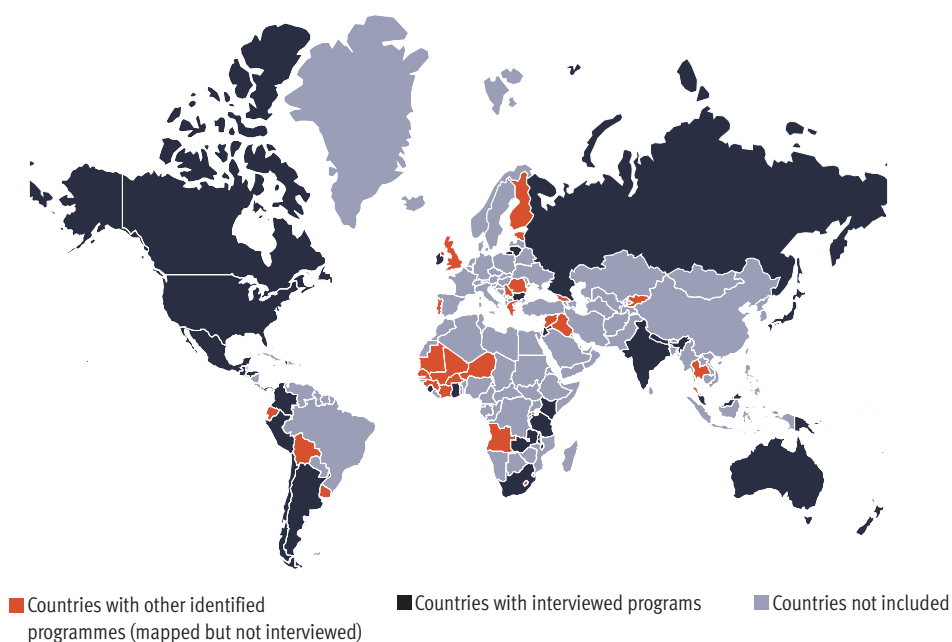
Upon review of the distribution of programmes, we noted that the baby box has been adapted in a wide range of countries, across many cultures and communities (Figure 4, p. 32). The location of a baby box programme often reflects either the needs of the intended recipients or the political or economic climate in which the programme operates. For example, analysing the countries by income status showed that most programmes operated in low- and middle-income countries, possibly owing to limitations in local health or social protection systems which may have prompted the need for a baby box programme. When examining programmes in high-income countries, we observed that many European programmes were located in the UK or Ireland. This was likely due to increased awareness brought about by the influence of media coverage of the baby box (particularly by the BBC) and the establishment of the Scottish Government’s baby box programme.

Table 1. Number of mapped and interviewed baby box programmes in different world regions ^a.

Region	Number of mapped programmes	Number of interviewed programmes
Americas	22	8
Europe	22	5
Africa	17	6
Western Pacific	14	5
South Asia	7	3
Eastern Mediterranean	5	1
Multi-region	4	1
Total	91	29

^aRegional classification is adapted from the member list of WHO regional offices.

Figure 4. The global map of baby box programmes mapped and interviewed ^a.



^aOne country with an interviewed programme in Europe is identified as a mapped country and not an interviewed country as the programme did not give consent to reveal this information.

4.2 Programme focus areas

The 91 mapped programmes had different focus areas based on the aims and goals of the organisations operating them. These aims, in turn, reflected local needs and challenges. The programmes aimed to support not only newborn babies, mothers, and the services important to them but also entire families and communities. Many programmes had multiple goals, mirroring the notion that the baby box concept can be harnessed to tackle more than one challenge at a time.

As Figure 5 (p. 34) illustrates, programmes focused on areas related to their aims: reducing infant or maternal mortality, promoting the wellbeing of babies and mothers easing financial and parenting burdens, encouraging uptake of health and community support services, and strengthening communities and reducing inequalities. Many of these focus areas can be viewed as public health goals, such as ensuring a safe delivery for mothers (for instance via providing clean delivery items in developing country contexts) or preventing sudden infant death syndrome (SIDS) (for instance via education). Other focus areas can be conceptualised within a wider definition of wellbeing, which includes not only physical but also mental, social and economic wellbeing. Baby boxes were also used as potential tools of engagement and a facilitator of communication between health or social service providers and families. Finally, some governmental authorities gave out baby boxes with the intention to support new families and welcome the baby into society.

Based on the in-depth analysis of the 29 interviewed cases, we identified three interconnected pathways through which the baby box programmes aimed to achieve their goals. These pathways included the actual box and the essential items in it, the provision of education, and the establishment of a condition to receive the box to prompt a change in behaviour related to health or wellbeing. These pathways were often profoundly interlinked. For example, a programme could provide education by including items such as handbooks, leaflets or DVDs in the box. The condition to receive the box might also be participation in an educational programme. Figure 6 (p. 35) illustrates these pathways and their relationship to the aims of the interviewed baby box programmes.

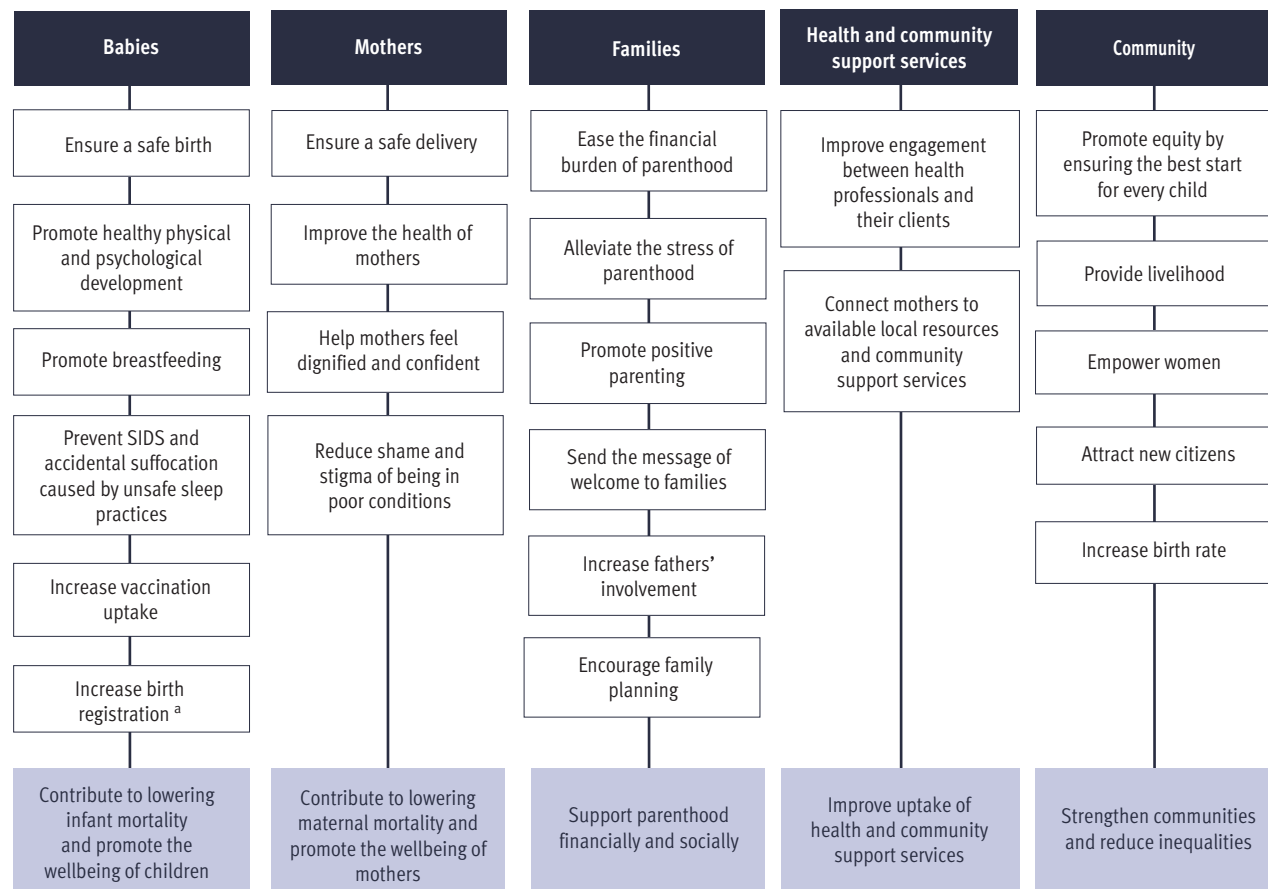


Figure 5. Focus areas around which baby box programmes developed their aims.

^aAnecdotal evidence.

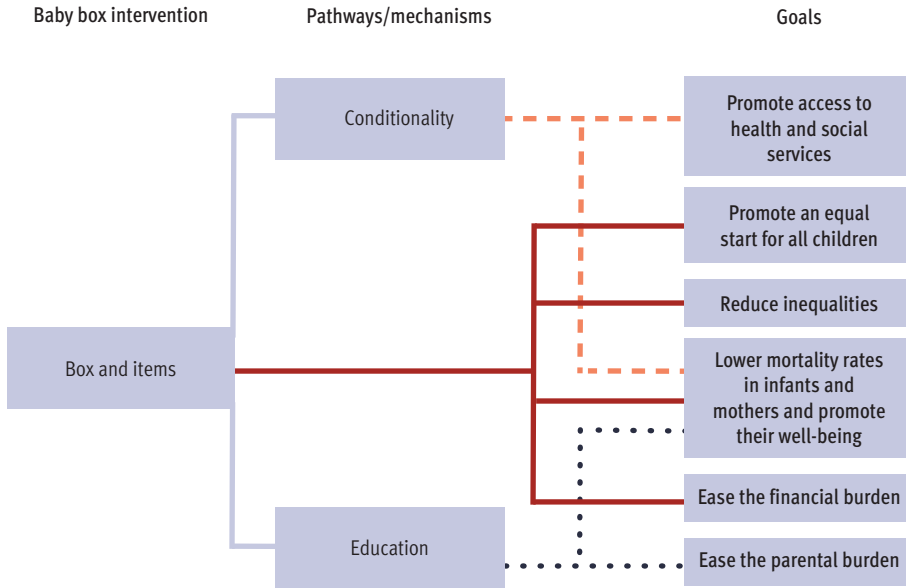


Figure 6. The pathways through which baby box programmes intended to achieve their aims. Data based on the analysis of the 29 interviewed programmes.

4.3 Conditional baby boxes as an incentive for behaviour change

In 15 of the interviewed baby box programmes, the intended beneficiaries were required to fulfil one or more conditions to receive the baby box. In these types of programmes, the baby box was an incentive which aimed to prompt a change in caregivers' behaviour.

The conditions in the interviewed programmes included giving birth at a health facility, attending ANC, participating in a health education or awareness programme, attending a mentorship programme, taking a pregnancy knowledge test, registering a newborn child, or completing a compulsory vaccination programme. Therefore, baby boxes can be used as an incentive for parents, especially mothers, to take action not only for their own wellbeing but also for the wellbeing and development of their babies. There were few apparent trends in the relationship between the conditions and the type or location of programme. However, conditions of attending ANC or giving birth at a health facility were unique to programmes operating in low- and middle-income countries outside of Europe. While many programmes did not aim to prompt a change in behaviour through a particular condition, eligibility criteria or requirements to register in the programme may have inadvertently influenced beneficiaries' behaviour.

Since there are few scientific impact evaluations published about baby boxes (see Chapter 2), it is difficult to estimate to what extent the conditions of a baby box programme bring about the desired impacts. As elaborated upon in Chapter 3, historically, baby boxes appeared to have played an important role in encouraging ANC attendance in Finland.

The role of the baby box as an incentive can also be analysed in the wider framework of the conditional forms of social protection. We discuss this further in Section 9.2.

4.4 Intended beneficiaries

Baby box programmes are intended to benefit various groups of people. Depending on the purpose of the programme and available resources, the boxes are either provided to all mothers and their babies or to specific vulnerable groups. Out of the interviewed programmes, 10 were defined as universal, in that their conditional or unconditional intervention targeted all mothers who gave birth within a geographical or administrative area. The aim of the universal approach is to ensure that every baby, regardless of circumstance, receives the best possible start in life. This approach is used for instance in Scotland, in a nationwide scheme (presented in Programme overview 1, p. 37) where the baby box is distributed to all new parents.

In contrast, the targeted programmes provided baby boxes to specific groups, namely poor or low-income families, first-time families, families suffering from natural disasters, immigrant families, indigenous families, single mothers, mothers in refugee camps, mothers in prison, teenage mothers, student mothers, disabled mothers and mothers with disabled babies.

A baby box programme in Colombia (presented in Programme overview 2, p. 38) shared the Scottish programme's aspiration of reducing inequalities. However, the organising foundation chose a targeted approach due to limited resources. This foundation largely operated on a voluntary basis, and several key people did not receive a salary. These limitations were further exacerbated by the high demand for such support in a country that ranks amongst the highest in inequity in the world (The World Bank, 2019). The organisation was left with no other option than to offer the programme only to the most vulnerable groups. To reach their audience, the foundation contacted select public healthcare facilities to recruit underprivileged women into the programme.

Besides benefiting parents and babies, baby box programmes can benefit other local community members by recruiting people to produce the box items. This income opportunity was usually offered to those living in disadvantaged conditions, such as women living in refugee camps or people living with HIV/AIDS. In the long run, these beneficiaries were

Programme overview 1. Scotland, UK.

Organisation	The Scottish Government
Project	Scotland's Baby Box
Project type	Governmental universal programme
Target group	Every baby born and living in Scotland
Aim	<ul style="list-style-type: none"> • Reducing socioeconomic inequalities by ensuring every family with a newborn has access to essential items • Informing parental behaviours that will positively impact on outcomes for the child, including safe sleeping practices, breastfeeding, postnatal depression, attachment and parent-child interaction
Condition for receiving the maternity package	No condition
Number of packages delivered in 2017	22,000
The package	A selection of clothes from newborn up to the age of 6 months, hygiene and personal care items, a travel changing mat, muslin cloth squares, breast pads, bib, digital ear thermometer, baby books and toy and so on.
Special about this programme	<ul style="list-style-type: none"> • The Baby Box is part of a wider package of services delivered to families and it is integrated to prenatal and neonatal care services available for the mothers • The Scottish government is seeking to build an evidence base for the box as an intervention. They have commissioned a full evaluation of the program. The Scottish Baby Box is thus an exception among baby box programmes of which many are not scientifically evaluated.
They say	"The Baby Box is a manifest of Scottish Government's commitment to promote a fair and equal start for all children and to aid in achieving the best possible outcomes for children." (Interviewee, programme in Scotland)

equipped with skills, such as sewing and weaving, which in turn gave them a higher chance of finding a job and securing livelihood.

4.5 Programme organisers

Baby box programmes are developed by many types of organisations. Our research showed that these organisations ranged from small-scale non-profit organisations with only a handful of individuals working on the baby box project to large governmental bodies. In some cases, programmes were commissioned by one actor, for instance, a government body, yet they were developed and implemented by another actor, such as a university.

Programme overview 2. Colombia.

Organisation	Foundation called Fundación Fruto Bendito
Project	Cunas con Amor
Project type	Non-profit support programme in selected cities
Target group	Families in two lowest income classes, teenage mothers, single mothers and immigrants from Venezuela
Aim	<ul style="list-style-type: none"> • Reduce inequities • Reduce and prevent SIDS • Promote breastfeeding and respectful non-violent parenting
Condition for receiving the maternity package	Mothers have to comply with the minimum of four antenatal visits.
Number of packages delivered in 2017	1,200
The package	Baby clothes, sleep related items, some hygiene and care related items and educational material in a cardboard box
Special about this programme	<ul style="list-style-type: none"> • Mothers are included in group chats for improved networking and support and to learn to know each other when attending the baby box delivery event • At the event, they offer health education on various issues and one-on-one breastfeeding nursing assistance • Historically, Colombian parenting culture can be described by some as violent, therefore, one topic is respectful, empathy-based and non-violent parenting
They say	“The best way to change the country is through parenting and childcare.” (Interviewee, programme in Colombia)

During the mapping of all 91 baby box programmes, we found that nearly half were organised by non-profit organisations (see Table 2, p. 39). These non-profit organisations ranged greatly in size and focus, and their programmes typically involved collaborations between different actors, such as charities, private donors and local healthcare providers. Various governmental bodies were the second most common type of baby box programme organiser. The national governments of Chile and Scotland rolled out nationwide programmes, while in other countries, the programme organisers were local governments within states, municipalities or cities. The third most common type of organisation was public hospitals with maternal healthcare services, which operated programmes that offered baby boxes to mothers parents giving birth at their facilities. The fourth most common type of organisation was well-known international non-profit organisations, such as Save the Children, or UN agencies, such as UNFPA and UN Women. Finally, several research-oriented baby box

Table 2. Number of identified and interviewed baby box programmes run by different types of organisations.

Type of organiser	Number of mapped programmes	Number of interviewed programmes
Research institution	3	3
Governmental authority (including provincial or local government)	20	5
Hospital	11	2
Large international non-profit organisation or UN agency	8	3
Other non-profit organisation	43	16
(Private company)	2	0
(Others; including individuals, group of volunteers, community club)	4	0
Total	91	29

programmes were conducted by or in cooperation with research institutions. These programmes ranged from a PhD project to larger, multi-stakeholder research collaborations. There was a fine line between these categories: for instance, a programme organised by a non-profit organisation may have also collected data and been research-informed while additionally collaborating with a local hospital.

Although commercial baby box programmes that sell boxes to customers were excluded from the study, we identified 2 private, for-profit operators that seemingly aligned with health promotion goals and provided baby boxes for free. These two operators were included in our data as mapped programmes. The role of these companies and their business models warrant further research, which is beyond the scope of our review.

Most interviewed programmes were relatively new and had been in operation for less than three years. While there were several programmes that had just begun delivering their first baby boxes at the time we interviewed them, there were also programmes that had operated for several years, such as the governmental programme in Chile (nearly nine years) and the programmes in Papua New Guinea and Jordan (around six years). Figure 7 (p. 40) depicts the duration of operation for the baby box programmes we interviewed, calculated from the time they started delivering baby boxes to either July 2018 or the time they stopped delivering the baby boxes, whichever came first.

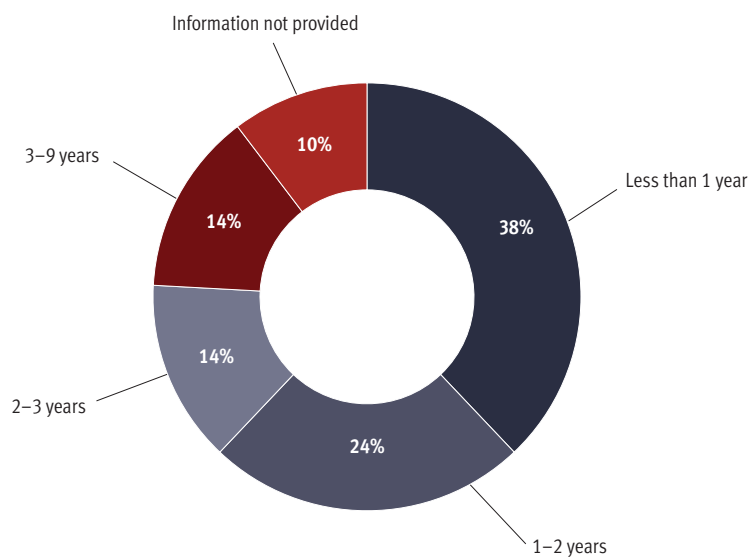


Figure 7. Proportions of interviewed baby box programmes by operation time, calculated by July 2018.

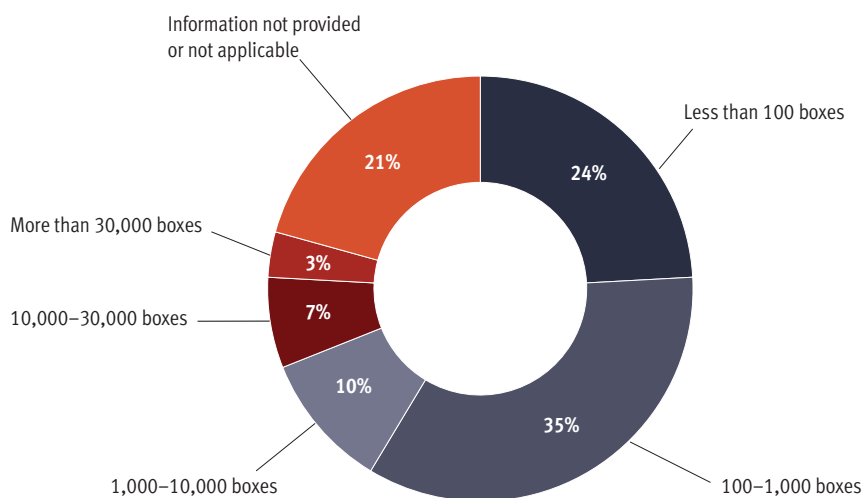


Figure 8. Proportions of interviewed programmes by number of boxes delivered in 2017.

The number of boxes delivered varied substantially between interviewed baby box programmes, reflecting their available resources or the geographical scope of the programme. More than half of the interviewed programmes delivered tens to hundreds of boxes in 2017. In contrast, tens of thousands of boxes were given out to beneficiaries in the same year by only a few programmes, such as nationwide governmental programmes in Chile (140,000 boxes) and Scotland (29,628 boxes) and the programme operating in several Latin American countries (20,000 boxes). Figure 8 (p. 40) presents the number of boxes delivered in 2017 by 23 of the 29 interviewed programmes (6 programmes did not operate in 2017 or did not provide the information).

4.6 Programme funding models

The 29 interviewed programmes used different funding models depending on their mandate, the contents of the box and the type of organisation. With the exception of governmental programmes, it was common practice for baby box programmes to seek funding from multiple sources.

Programmes initiated by governmental bodies were usually part of a larger social welfare or health scheme funded from the public budget. Programmes operated by UN agencies were also typically supported by a larger funding pool, as baby box programmes were often linked to wider UN campaigns for health, relief or development. Research-oriented programmes may have received government or international development funding in addition to research grants or donations. Hospitals financed their baby box programmes via grants from healthcare support foundations or in-kind sponsorships of boxes and items.

Non-profit organisations commonly relied on monetary and in-kind donations to fund their programmes. They obtained box items from individual donations or through donations or sponsorship of private companies. Some programmes used a fundraising platform to promote their programme and manage the processing of donor payments. To further facilitate the fundraising process, many programmes also used social media as an advertising tool, especially when they relied on individual donations and needed to reach the maximum number of potential donors.

Several non-profit organisations maintained a commercial baby box programme in tandem with a charitable programme, in which they delivered baby boxes free of charge to targeted groups. In other words, these organisations sold a portion of boxes in high-income contexts and used the profit to support their charitable programmes. For example, one programme sold baby boxes in North America to finance the provision of free boxes to recipients in South Asia.

5 THE BABY BOX AS A SLEEPING PLACE

The fundamental idea of the baby box concept is to provide material (i.e. in-kind) support to promote the wellbeing of the infant, mother and family. “Material” refers to pre-selected items as well as the box or other type of container which contains the items. Additionally, in the baby box concept, the container typically serves additional purposes beyond packaging the items. In this chapter, we review the different types of baby box containers and the use of these containers as sleeping spaces. We also explore the influence of safety, environment and culture on the design and creation of baby box containers intended as sleeping spaces.

5.1 Types of baby box containers used as sleeping spaces

The baby box items were most often packaged in cardboard boxes, following the lead of the Finnish baby box. Some programmes used other forms of containers, namely bamboo cradles, wooden boxes, plastic boxes, baby bathtubs and bags. Of the 29 interviewed programmes, 16 used cardboard box-type baby boxes. As Figure 9 illustrates, most of the cardboard boxes and over half of the other forms of containers were intended to be used as a bed for the baby.

Programmes that intended for the baby box container to be used as a sleeping space aimed to promote safe sleeping. This aim was either communicated as the main focus of the

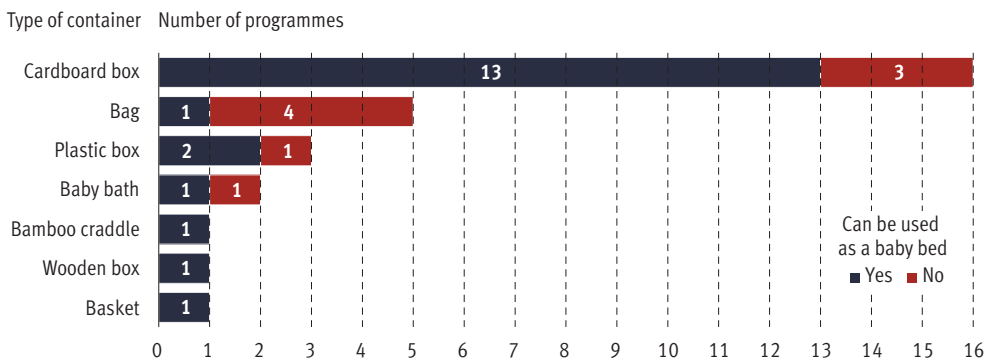


Figure 9. Packaging containers used in baby box programmes.

Programme overview 3. Alaska, US.

Organisation	Bartlett Regional Hospital
Project	Baby Box Program
Project type	Hospital-based support programme
Target group	Babies delivered at this hospital and their mothers
Aim	<ul style="list-style-type: none"> • To initiate safe sleep practices and provide safe sleep places, which can contribute to preventing SIDS • Also, to promote breastfeeding as a measure of infant safe sleep
Condition for receiving the maternity package	No condition
Number of packages delivered in 2017	350
The package	Baby clothes, breastfeeding items, sleep related items educational materials and a book in a cardboard box which can be used as a baby bed
Special about this programme	<ul style="list-style-type: none"> • They provide parents with education on childcare, safe sleep practices and breastfeeding • They follow up the uptake of the sleeping box and reinforce the education through calls and surveys after hospital discharge • Box items are specifically chosen to be cost-effective and baby-care and breastfeeding focused
They say	“It’s an opportunity to keep them (the babies) safe and protect them from sleeping in an unsafe environment. The parents get all the information that they need to support that.” (Interviewee, programme in Alaska, US)

programme or as an additional goal of a multi-purpose programme. Safe sleeping refers to practices that minimise the risk of Sudden Unexpected Infant Death (SUID), which includes sudden infant death syndrome (SIDS) and fatal sleeping accidents. For example, in light of their aim to address the high rates of SIDS in Alaska, the programme in Bartlett Regional Hospital included education for mothers giving birth in the hospital on safe sleep and a cardboard-type baby box to encourage safe sleeping practices. Details of the programme in Alaska can be found in Programme overview 3. For more information on baby boxes and SIDS, see Section 9.1.

5.2 Designing and sourcing the box

Programme organisers wanted to ensure both the acceptability of using the baby box as a sleeping space among parents as well as the safety of the babies sleeping in the box or container. They therefore examined local conditions, such as culture or environment, when designing their container. Organisers also made a special effort to find suitable suppliers who could provide baby boxes in accordance with the programme's specifications or common quality standards for cribs and cradles.

While nearly half of the programmes utilised the idea of using the cardboard box as a sleeping space, cardboard boxes may not be the best option in every setting due to local circumstances, such as the physical environment, weather conditions or culture. Therefore, many organisations reported that they had conducted situational analysis within local communities before deciding on the material and shape of the containers. After focus group discussions with community health workers and the partnering organisation, the programme in South Africa recognised that a cardboard sleeping box might not be appropriate in poor settlements due to the presence of rats. In Malawian culture, the cardboard box resembled a coffin, so mothers did not support the idea. The programme opted for a baby basket instead of a box. A programme operating in a refugee camp conducted assessments to identify the most suitable type of container. As a result of these assessments, the programme chose a bag that could be used not only to carry the baby but also to keep the baby warm on the camp floors during harsh weather.

As safety was reported as a top concern for many programmes, the quality of the container was considered in both the design and manufacturing stages. The Scottish cardboard baby boxes were made in compliance with standards applicable to domestic cribs. User-friendliness was another important consideration, as the boxes should be easy to assemble and use. The sturdy, locally sourced bamboo cradles offered by the programme in India were positively welcomed by families, as bamboo products were familiar and fit more naturally within their home environment.

Different organisers obtained their boxes in different ways. Governmental programmes usually procured boxes through regulated bidding processes. Many other programme organisers purchased ready-made boxes from the market or received their boxes from a sponsor. However, as it was challenging to find the right containers in terms of durability and size, several programmes needed to order customized boxes to meet their specifications. The containers can also be self-produced, such as the Malawian baskets, which were woven by local people in the community.

6 BABY BOX CONTENTS

The items inside of a baby box are often the first thing a parent sees and likely the most exciting part of the box for them to explore. Most of the interviewed programmes reported including items for babies, while other programmes also included items to support mothers during pregnancy, delivery or after giving birth. While most programmes focused on the first 6 or 12 months of a baby's life, some included items, usually clothes and toys, that could be used up to several years of age (Figure 10).

Programmes invested extensive time and effort into the selection and sourcing of box items to ensure proper quantity, quality and appropriateness. In this chapter, we explore the variety of items included in the baby boxes of the programmes we interviewed. We begin with an overview of how these items were selected and sourced.

6.1 Selecting the items

The contents of the baby boxes varied greatly among interviewed programmes. Items were excluded or included based on the unique needs, preferences and constraints experienced by the beneficiaries as well as the programmes.

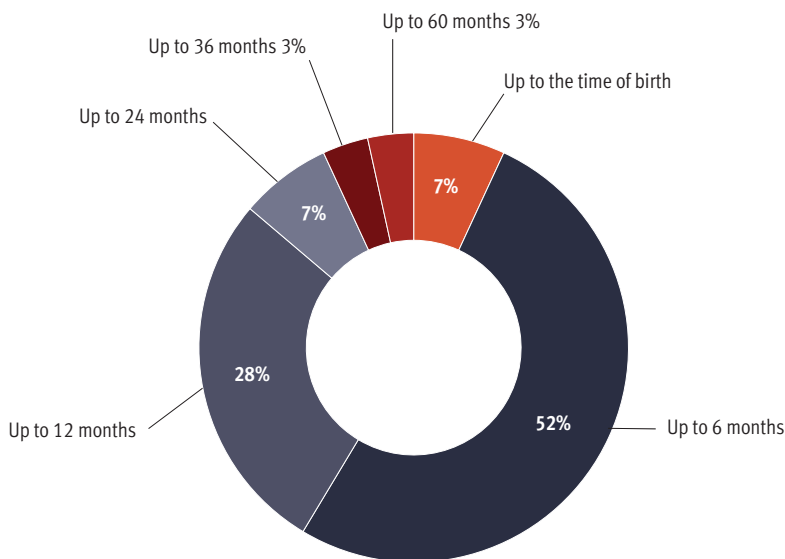


Figure 10. Proportions of interviewed programmes by the stage of life the baby box items support.

Local circumstances, such as prevalent diseases and health conditions, level of income, level of existing health infrastructure, culture, and weather conditions, informed the item selection process for many programmes. For example, mosquito nets were included in baby boxes in countries such as Ghana, Haiti and Mexico where malaria, Zika virus disease or other insect-borne diseases were a concern. To identify local priorities, many programmes conducted surveys, interviews or focus group discussions with parents, midwives, community health workers or local partnering organisations to determine which items to include and how they should be designed. Further, engaging the mothers in the item selection process is likely to enhance the attractiveness of the baby box as an incentive to influence mothers' health behaviours in conditional programmes.

Additional factors that guided item selection were the purpose or aim of the programme, scientific evidence, and academic or governmental recommendations. For instance, in alignment with their programme's purpose to promote breastfeeding, a hospital-based programme in Ireland worked with a lactation consultant to ensure that the included items did not advertise formula milk or violate the International Code of Marketing of Breast-



Photo 5. Typically, a baby box includes baby care items such as bed linens, a blanket, baby clothes, hygiene items, diapers, a book and educational materials, such as booklets. This is the Canadian baby box. © Melody Loewen / Welcome to Parenthood.

milk Substitutes. In accordance with the recommendation of governmental authorities, the programme in South Africa excluded certain toys and mercury-containing thermometers, which can be a health hazard to infants.

Programme budget also guided the item selection process. While some programmes provided a generous package of items as they aimed to relieve the potential stress and financial burden of purchasing supplies for a new baby, others prioritised the most essential items to be more cost-effective. Some programmes decided to leave out items that were either found to be too expensive or already accessible to beneficiaries. Such items included condoms in the programme in New Zealand, mosquito nets in the programme in Sierra Leone and second-hand clothes in the programme in the US. Baby boxes offered to families affected by mud slides in Sierra Leone did not include clean delivery items, as pregnant mothers were expected to deliver at public health facilities, which were still operational despite the natural disaster.

Other factors programmes considered when selecting items were environmental-friendliness, sustainability and cultural sensitivity. For example, some programmes preferred to include reusable nappies over disposable ones. Other programmes considered, for example, illustrations with skin colours representative of the different populations in the community within educational materials to promote inclusivity.

Frequently, programmes considered which items to include not only during the planning stage and trials but also during the post-launch stage. Many programmes conducted user surveys to collect feedback about the usage and usefulness of the included items and adjusted the box contents accordingly (further discussed in section 8.5).



Insights

Selecting the right items in developing settings

A programme operating in a poor rural area in Africa aimed to encourage mothers to give birth at the health centre by offering them a baby box. When considering what to include in the box, they first intended to follow the lead of well-established baby box programmes. However, after spending time with local families, they realised that there was no point in providing items that would likely be impractical or rejected locally. Another baby box programme working in a similar setting echoes: “Certain ‘Western’ items, such as disposable nappies or baby wipes or talcum powder etc. are not part of mother’s culture to use and are rarely available”. The programme in Africa decided to design a specific-to-culture version of the box by organising focus group discussions with mothers. They also consulted the local public health centre to learn which items mothers needed for giving birth in the centre but were not affordable or available in the market. They made the final selection based on the mothers’ ranking of the items they found the most attractive.

Their boxes were well-perceived and highly appreciated by mothers. The programme observed an increase in facility deliveries after the launch of the programme.

6.2 Sourcing the items

Baby box organisers obtained items for their programmes in one or several of the following ways:

- Baby box programmes received donated items from individuals in the community or from companies, libraries, churches, etc.
- Baby box programmes purchased items from suppliers, such as stores or pharmacies, or directly from manufacturers. Non-profit organisations typically purchased items at preferential rates or in bulk at the wholesale price.
- Baby box programmes recruited employees or volunteers to produce the items in-house.
- Programmes run by governmental authorities (including provincial or local government) were usually required to go through a public bidding process or a regulated procurement system.

Some programmes considered local acceptability when sourcing their items, especially when beneficiaries preferred locally sourced items and materials. These programmes also aimed to support local businesses and workers through prioritising local production.

6.3 Common baby box items

We have summarised the most common items included in Figure 11 (p. 49). The most common items given to baby box beneficiaries were baby clothes. Most programmes provided underwear or indoor clothing, such as bodysuits (rompers), pants and socks. About half of the programmes also provided outerwear or outdoor clothing, such as a one-piece suit, jacket and booties.

Many programmes provided baby sleep items, such as blankets, mattresses and sheets. Several programmes also included items to support sleep on the go, such as a sleep sling or a chitenje – a traditional cloth that East, West and Central African women wear and can use to carry the baby on their back.

Baby box programmes provided a wide variety of hygiene and care items for babies. Common items included towels and muslin cloths, disposable or reusable nappies, soap, and other products, such as cream, talcum powder and oil. Notably, half of the programmes also included hygiene items for the mothers, namely sanitary solution, sanitary pads and adult diapers.

Baby toys and books were provided by over half of the programmes. Some considered parents reading a book to their baby as an important bonding experience, as well as a way

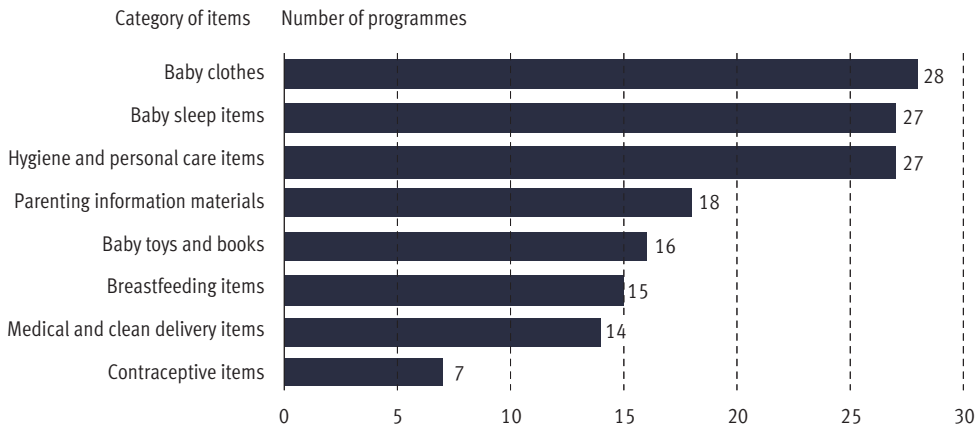


Figure 11. Number of interviewed programmes by categories of items included in their baby boxes

to facilitate language acquisition. For instance, one programme in the US provided books in English and Spanish to encourage the use of the baby's native language.

Many of the interviewed programmes provided beneficiaries with parenting information materials. The educational aspects integrated into baby box programmes are covered in more detail in Chapter 7.

We expand on the details of these and all included items in Appendix 4.

6.4 Breastfeeding items

Half of the programmes included items related to breastfeeding. The most common item included was a pair of pads, which could be used to absorb milk leaks and keep the mother's clothes clean and dry. Some baby boxes also included other items to encourage breastfeeding, such as clothing (nursing cover, nursing cape, breast gown or nursing bra) or a breast pump. The programme in Chile provided a cushion to support a comfortable breastfeeding position.

Several programmes reported including a baby bottle or dummy (pacifier). In some contexts, baby bottles may discourage breastfeeding (Salcan, Topal and Ates, 2019; Gasparin, Strada, Moraes et al., 2020). Reflecting on these considerations, baby bottles were removed from the Finnish baby box and have also been purposefully left out of many other baby box

programmes after initial consideration or piloting, such as in the programme in Malaysia. In addition, as dummy use is associated with a shorter duration of exclusive breastfeeding, mothers who aim to breastfeed should avoid dummies in the first weeks after birth (Kronborg and Væth, 2009). However, from the perspective of preventing SIDS, dummies may be considered beneficial after breastfeeding is firmly established. Studies have suggested that dummy use may offer a protective effect on the incidence of SIDS (AAP Task Force, 2016).

Including formula in a baby box is particularly debatable. Baby box programmes should carefully consider their decisions in the light of the International Code of Marketing of Breastmilk Substitutes, an international health policy framework which regulates the marketing of breastmilk substitutes and protects breastfeeding. A programme operating in Kenya provided formula with the rationale that many of their recipients were malnourished and had difficulty producing enough milk for their baby.

As breastfeeding was seen as an important issue by many baby box organisers, the topic was also included as an important educational theme in their programmes (discussed further in section 7.3).

6.5 Medical and clean delivery items

Half of the programmes included medical and clean delivery items. Thermometers were the most common medical items included, followed by mosquito nets to protect babies from insects and malaria. Several programmes provided medicines for the mothers (misoprostol pills to prevent excessive bleeding, analgesics to relieve pain) or for the babies (vitamin K, tetracycline eye drops and hydration supplements). One programme in the US included various healthcare items (nasal aspirator, digital thermometer, soft-tip medicine dispenser, comfort tip medicine spoon) together with hygiene items and baby care guides in their comprehensive care kit.

A few programmes provided a plastic sheet to be used as a delivery surface, sterile surgical or razor blade, umbilical cord clamp, antiseptic solution and sterile gloves to support a safer delivery. Clean delivery items have the potential to reduce maternal mortality and morbidity (Aleman, Tomasso, Cafferata et al., 2017). Basic clean delivery kits should include five essential elements as illustrated in Figure 12 (p. 51) (PATH, 2016). In addition, the WHO provides comprehensive recommendations for cleanliness during childbirth and a checklist of safe birth supplies (WHO, 2015a).

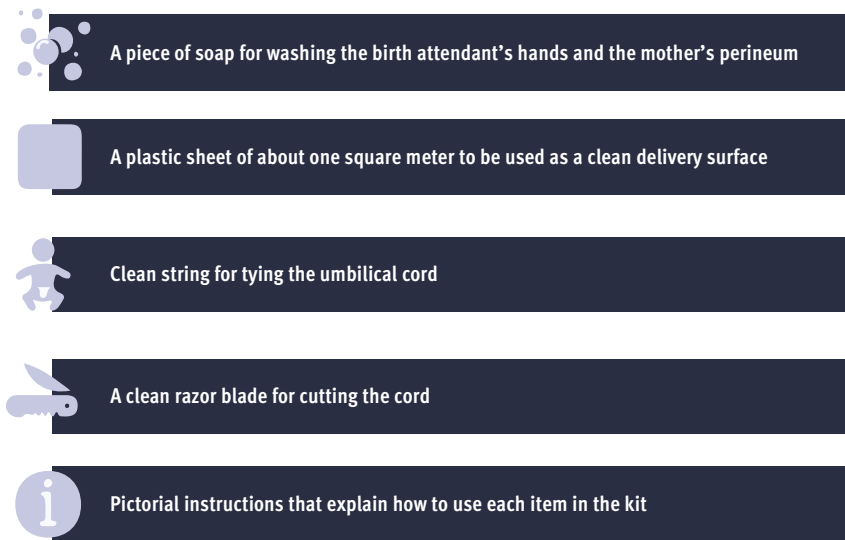


Figure 12. Contents of a basic clean delivery kit. Source: PATH, 2006.

6.6 Contraceptive items

Nearly one-fourth of the programmes included contraceptives with the aims of preventing HIV and other sexually transmitted infections, supporting family planning, or providing women with options to gain more control over their bodies and pregnancies. In Malawi, femidoms and condoms are readily available in clinics, yet not everyone may be aware of this. The programme organisers hoped that including condoms and femidoms in the packages would serve as a reminder for women and their partners to use contraceptives and encourage them to collect more from the clinics as needed. In some contexts, contraceptive items were included but were used in a different way than intended. For example, the programme in Papua New Guinea reported that the included condoms were used mainly for making fishing lures.

7 BABY BOX AS AN EDUCATION TOOL

Educational content was an integral feature of most of the interviewed programmes. The aims of the educational components were to increase mothers' and families' awareness of maternal and infant health and wellbeing. Through increasing awareness, baby box programmes intended to encourage people to change their behaviours, customs, and beliefs in ways which might improve the health of mothers and babies. Although only five of the interviewed programmes set a condition for the mother to complete an educational or mentoring programme to receive the baby box, education was included in most baby box programmes in one form or another. Indeed, many programmes viewed health education or counselling as their most important component and considered the tangible items of secondary importance.

7.1 Educational topics

The educational topics that programmes aimed to convey varied depending on the country and local context. The topics included childcare, hygiene and health issues, safe sleeping practices, breastfeeding, family planning, maternal health, pregnancy and delivery, available health services, and HIV and malaria prevention and care. Educational topics also covered psychological and social parenting issues, such as risky behaviours that should be avoided, postnatal depression, recommended parenting styles, early childhood development, parent-child interaction, parental relationships, and fathers' involvement during pregnancy and in childcare. Particularly in low- and middle-income countries, some programmes aimed to educate pregnant women about healthcare and the related services they were entitled to, as well as how to access them. Several baby boxes also included user instructions for the box, especially in programmes where safe sleeping was a primary aim, or instructions for the items, such as cloth nappies or sanitary pads, in contexts where these items may have been unfamiliar.

Most of the programmes addressed multiple topics. For example, the programme in Ghana developed a comprehensive training programme. Expectant mothers needed to attend 9 prenatal and 2 postnatal training sessions on several topics, such as pregnancy, postnatal health, breastfeeding, and parenting styles. Mothers could bring their babies to the last session, in which topics such as physically disciplining the child were discussed, to encourage movement away from such behaviours.

7.2 Channels of health education

Most baby box programmes provided educational content through more than one channel. Education was usually delivered via face-to-face events, such as talks, classroom sessions, and workshops. In some cases, education was provided via mother-to-mother discussion groups to provide peer support and social contacts.

Educational materials, such as leaflets, booklets, and videos, were included in the baby box in 18 out of 29 interviewed programmes. Some offered internet-based courses or used social media or chat groups. The programme in Chile used a combination of DVDs and educational events to guide families through common situations, such as consoling a crying baby.

Some baby box programmes integrated home visits and personal counselling into delivering the baby box to the mother. In these situations, the baby box programme may enhance the connection and trust between the mother and the health professional.

Three programmes included personal letters of encouragement in the baby box and one programme designed an educational wall calendar, intended to foster parents' excitement about and appreciation of the new baby.

The wall calendar created in the programme in South Asia (Programme overview 4, p. 54) is an example of an educational tool with the potential to reach the whole family and anyone visiting their home. The programme wanted to incorporate educational elements into a product that would be useful throughout the year. The calendar has a pocket on its cover to insert a photo of the baby or the whole family and make the calendar more personal. The calendar also includes illustrated stories in which the mother, father, mother-in-law and health worker discuss different topics, such as breastfeeding. Cultural aspects of family dynamics were taken into account to develop relatable characters: for example, a mother-in-law usually has more decision-making power than a young mother.

Mentoring is a unique way to provide psychological and social support for positive parenting styles and healthy child development. For example, to support early childhood development, the programme in Canada developed a mentorship programme in which mothers and mentors were educated about the "Brain Story" approach together (Programme overview 5, p. 55).

7.3 The most common educational topic: breastfeeding

Generally, interviewed programmes were well aware of the importance of breastfeeding. The positive health effects of breastfeeding for the baby and mother are extensively established in research. However, only 37% of infants younger than 6 months are exclusively breastfed in low-income and middle-income countries, and high-income countries have even short-

Programme overview 4. South Asia.

Organisation	Barakat Bundle: a registered non-profit and social enterprise
Project	Barakat Bundle
Project type	Conditional support programme
Target group	Low-income mothers and newborns in South Asia
Aim	<ul style="list-style-type: none"> • To reduce preventable infant and maternal mortality in South Asia • To work with local communities to provide life-saving solutions and health education to support mothers and their newborns
Condition for receiving the maternity package	Mothers need to give birth at a healthcare centre
Number of packages delivered in 2017	25
The package	A multifunctional bundle containing context-specific medical and clean delivery items, sleep-related items such as a bamboo safe-sleep rocking cradle, newborn clothes and essentials, care and hygiene items, sensory baby toy and parental education materials
Special about this programme	<ul style="list-style-type: none"> • They work with community health workers, who give prenatal care for mothers at home, showing a sample bundle and advising how the mother can receive it, as well as free transport to the clinic when they deliver • They provide health education via a wall calendar
They say	“We emphasize human-centred design. Simple little things matter. It is very important to be conscious of our Western approach and to find out what the communities really want.” (Interviewee, programme in South Asia)

er breastfeeding durations (Victora, Bahl, Barros et al., 2016). Fittingly, breastfeeding was the most common educational topic connected with the baby boxes. For example, the programmes in Colombia, Ghana, and Alaska organised events to promote breastmilk as the best source of nutrition for the baby. In addition, the programmes in South Africa and Sierra Leone provided personal guidance and mentoring to mothers to support breastfeeding. A refugee camp in Jordan hosted sessions to raise awareness and advocacy in favour of breastfeeding – some of the events also addressed men and boys in addition to addressing women.

Besides being promoted through events and personal guidance, breastfeeding was also a featured topic in educational materials packed into many baby boxes. For example, Malawian and Scottish baby boxes included leaflets on the benefits of breastfeeding and the programme in Ireland required recipients to watch an online video on the topic. One of the three educational DVDs in the Chilean box promoted breastfeeding and encouraged recipients to use the breastfeeding cushion included in the box. The programme in Alaska included

Programme overview 5. Canada.

Organisation	University of Calgary
Project	Welcome to Parenthood
Project type	Intervention design and evaluation project
Target group	First-time mothers; replicated with high social risk mothers
Aim	To apply a neuro-behavioural approach to supporting, educating and mentoring families focusing on the importance of early brain development of the child
Condition for receiving the maternity package	The mothers need to participate in multi-component intervention. They are obliged to engage with a mentor from their family sphere or social network (or volunteer mentor provided by the programme) who is willing to have 20 contacts with the family from 32 weeks of gestation to 6 months after the baby is born. Both have to take two hours education and a video and fill a questionnaire. Both are screened for depression.
Number of packages delivered in 2017	454 for community sample (first-time mothers and their mentors)
The package	A cardboard box with mattress and lid plus a comprehensive selection of evidence-informed baby care essentials including clothes, sleep-related items, care and hygiene items, breastfeeding-related items, thermometer, book and education materials
Special about this programme	They focus on the “Brain Story” which is a story about how life experiences shape the developing brains of children, particularly in the first years of our lives.
They say	“It is easy to get caught up with the tangible items, but it is actually the programme that makes the difference. The box is not the active ingredient of the process but the mentorship and support and everything else around the box.” (Interviewee, programme in Canada)

a breastfeeding book to accompany the breastfeeding items, such as washable breast pads. These examples show that breastfeeding is important to programmes in both the Global South and Global North and that this topic is addressed in numerous ways through education and material support.



Insights

Why is breastfeeding important?

The World Health Organization (WHO) and the American Academy of Pediatrics (AAP) both recommend pursuing exclusive breastfeeding until the baby is six months old. Victora et al. (2016) have estimated that if breastfeeding rates were raised at a nearly universal level, it could prevent 823,000 annual deaths in children under the age of five.

Evidence shows a number of positive outcomes for the baby's growth, development and health associated with being breastfed. Breastfeeding protects the baby against infectious diseases, such as diarrhoea and respiratory infections, and it decreases the child's risk of obesity and type 2 diabetes later in life. Being breastfed has also been shown to be beneficial for the child's cognitive and neurobehavioral development, and it helps to create a special bond between mother and baby. (Bar, Milanaik and Adesman 2016; Horta, Loret de Mola and Victora 2015.)

Breastfeeding also has many positive health outcomes for the mother. Those who breastfeed longer have a lower risk of breast and ovarian cancer and type 2 diabetes. In addition, breastfeeding delays the mother's regular menstruation (Chowdhury et al. 2015), contributing to improved birth spacing and keeping the mother's iron levels higher.

8 BABY BOX IMPLEMENTATION ISSUES

From ideas to practical implementation, baby box programmes must overcome a range of obstacles. Some issues are common in many types of programmes, such as funding, while others are more context-specific. This chapter highlights various challenges that may arise in the implementation of baby box programmes with funding, production, storage and delivery, human resource management, or programme evaluation.

8.1 Funding

Sustainability of funding was a major concern for many programmes. Different baby box organisers used various strategies to finance their programmes, yet each method had its own disadvantages.

Donations were an important funding resource for many programmes. However, donations were unreliable and unsustainable, as their amount and continuity were difficult to predict. Relying on grant funding presented similar challenges. To keep the programme running, organisers often sourced and purchased the boxes or items before they knew whether their funding proposals would be successful or permit retrospective purchases. This made it difficult to plan the purchase of supplies while financing ongoing programme activities.

While sponsorships were another important funding resource, sponsors may have ulterior motives. For example, one programme expressed concern about the possibility of a sponsor using collected demographic data outside of its original intended purposes.

One programme attempted to improve funding stability by subsidising a free baby box programme with the commercial sale of baby boxes in a “one-for-one” model. The price of the commercially sold boxes was set higher than usual to fund the charitable boxes. The potential buyers, however, were reluctant to buy the boxes at the requested price. The programme felt that lowering prices may have increased sales but would have had other drawbacks.

Programmes developed different strategies to adapt to inconsistent funding. The programme in Bulgaria limited distribution to about 50 baby boxes per month to ensure continuity of delivery. To overcome the unpredictability of donations, the programme in Lebanon waited until they had acquired a certain amount of money from donors before delivering the next round of baby boxes. Several programmes conducted pilot studies to demonstrate their programme’s efficacy to potential funders and to ensure future funding opportunities. Paradoxically, it appeared that some funders were more eager to fund the visible components of the programme, such as the boxes, than research evidencing the efficacy of the programme they were supporting.



Insights

Challenges in planning and implementation

Many baby box programmes learn a lot from their first pilot projects. A small-scale NGO operating mainly on donations offered to share their lessons learned on this topic. This NGO aimed to implement a baby box intervention in a developing country context. Their target population had high HIV prevalence, exacerbated by lack of testing and low HIV status knowledge. The NGO designed an intervention in which the target group would be pregnant women in a rural area, and the condition for receiving the box would be taking an HIV test. However, they soon learned that pregnant women did not want to disclose or discuss their pregnancy due to cultural beliefs that it would bring about bad luck for the baby. They additionally discovered that HIV testing was not a feasible condition. The NGO changed the target group to vulnerable women who had recently given birth. They also changed the condition to participation in a survey. The survey concerned the mothers' knowledge about pregnancy and reproductive health and included educational elements on HIV testing and counselling. However, due to resource constraints, the data from the surveys, collected in a local language, have remained unused. The NGO also experienced challenges with funding sustainability, the feasibility and ecological sustainability of transporting western-type baby boxes, and collaboration with their local partner organisation, which they eventually changed. In retrospect, the NGO questioned their approach of just "appearing" in the community with limited consultation from local stakeholders, as well as the acceptability of foreign researchers showing up on respondents' front steps in a rural village with a baby box and survey.

8.2 The selection and sourcing of the box and items

There are many factors to consider when choosing which items to include in a baby box. Although scientific recommendations are commonly the foundation for selecting the items, neglecting to consider local needs or preferences may reduce the programme's relevance. For example, following WHO guidelines, the programme in India originally provided oral rehydration salts (ORS) in their packages to address diarrhoea in children. However, many local mothers could not read the instructions or measure the right dosage, which limited the efficacy of this item. Initially, the programme in South Africa did not plan on including disposable nappies for environmental reasons. Yet, they ultimately decided to include them due to hygiene limitations in some areas and local mothers' preference for disposable diapers. Selecting items solely based on local preferences, however, is equally problematic, as feedback from mothers may fail to reveal important factors necessary for the selection of appropriate items. The programme in Chile took local preferences into consideration by surveying mothers. However, surveys may not reveal all locally relevant challenges. In Chile, there was a concern that babies were not getting enough "tummy time" due to factors such



Photo 6. A programme in South Asia instructs a mother on the use of the thermometer. © Barakat Bundle.

as lack of safe floor space, which can contribute to delays in infant motor development. Although surveyed mothers did not request a play mat, the programme decided to include one to encourage infant mobility. These examples highlight the importance of considering both local realities and scientific recommendations when selecting items for a baby box.

Even when scientific and local considerations were taken into account, programmes still faced difficulties ensuring the safe and appropriate use of the selected items. In one case, the provided baby box was placed in a hammock, highlighting the need for proper user instructions. In addition to including instructions, other efforts used to prevent misuse of the items included frequently collecting user feedback, or using human-centred design to develop the packages, a design strategy which focuses on the needs and requirements of the users.

Depending on which methods were used to source the baby box and the items inside of it (discussed in sections 5.2 and 6.2), there were various challenges to overcome in terms of quality, quantity and affordability. Programmes that relied on donated items faced variability in consistency and quality of box contents. Other programmes found it hard to secure suitable manufacturers capable of complying with desired specifications, especially the size and durability, of sleeping boxes. As one supplier rarely provided all of the necessary items,

programmes needed to identify multiple suitable manufacturers. Although buying items in bulk saved money in the long run, it required programmes to spend more money up-front. Government programmes obligated to source items through bidding processes were compelled to primarily select suppliers offering the lowest prices. Although bidding competitors are required to meet technical standards, the decision is still chiefly based on pricing rather than other important aspects, such as quality.

8.3 Logistics

Two of the most common logistical challenges reported were storage and distribution of the baby boxes. Many packages were large and materials were often purchased in bulk, necessitating large warehouses for storage. Securing ample space for the storage and assembly of ready-to-deliver boxes was an additional challenge. Due to storage limitations, some programmes reduced the size of the box (or other form of container) and it could no longer be used as a sleeping space for the baby. Even when sufficient storage could be found, it was also difficult to find storage facilities that could maintain the quality of box components. The programme in Bulgaria excluded food from the boxes because storage conditions were not capable of preserving quality. Additionally, programmes using hospital storage spaces needed to comply with hospital regulations. For example, the programme in Ireland ordered special trollies to meet the criteria that boxes could not be stored on the floors in their wards.

Many programmes cited distribution as an important logistical challenge. Delivering boxes to local partners or directly to beneficiaries was especially difficult in remote or isolated areas, where postal services or public transportation were limited or unavailable. In these cases, programme personnel used their personal vehicles to transport boxes, or used less common means of distribution, such as a plane, helicopter, or boat, to access island communities.

Several programmes overcame these challenges by assigning logistics to experts. National government programmes used contractors or specialized agencies to oversee logistics, from assembling and stocking to distributing the boxes. The government programme in Chile initially delegated the responsibility of box delivery to hospital health workers. However, this rapidly became a burden and delivery was reassigned to logistics experts. A non-profit organisation in New Zealand contracted a private, well-established logistics provider from the beginning of the programme to store boxes and deliver them upon request, even to remote locations.



Photo 7. In this non-profit programme operating in Bulgaria, the baby clothes and textiles included in the box are donated, and the hygiene items are purchased from local suppliers. A majority of the interviewed baby box programmes provided items in a cardboard box. © Mission Possible.

8.4 Human resources

Human resource management was challenging for many types of baby box organisations, across all levels of employment, particularly related to staffing and compliance with the programme's mission. Several programmes relied heavily on volunteers to carry out a significant portion of their work. While recruiting volunteers from within the community often increased programme visibility locally, due to the uncompensated nature of volunteer work, volunteer staffing was unpredictable. This affected the stability of several programmes. Although the programme in Malaysia initially recruited many volunteers, they lost many of them over time due to the demands of family and work. Even programmes operated by large organisations with contracted employees faced staffing instability, as such employees were often rotated to different projects within the organisation.

In programmes where box delivery was assigned to local health workers, some organisations reported concerns about health workers' adherence to the programme's mission and conditionalities. After several years of operating, one programme found that health workers had begun giving out boxes based on their own judgement rather than the original directions to give the boxes to all those who delivered at the clinic. It was also noted that some health workers displayed a negative attitude towards poor mothers who were frequently pregnant.



Photo 8. This baby box is personally delivered to the recipient's home. In this way, the programme organiser can provide counselling and encouragement to the new mother and also ensure that the baby box recipient is informed about the items and their correct use. © Mission Possible.

In this case, the health workers lost sight of the programme's original aim to encourage safe delivery at the clinic. Another example highlighting the importance of health workers' consistent implementation of programme conditionalities was reported by a research-based baby box programme. This programme found that health workers sometimes gave boxes to mothers who had not met the required condition to receive the box, which jeopardised the study's rationale of using the box as an incentive for change in health behaviour. The above cases illustrate the value of reminding health workers of the programme's meaning and mission through continued training and communication, especially in long-running programmes.

Finally, some organisers who had launched programmes in foreign countries found it difficult to oversee day-to-day operations long-distance. Such programmes had challenges finding suitable coordinators to manage the projects on-site.

8.5 Evaluation

Programme evaluation provides valuable information about the operations of the programme, the extent to which the programme has met its intended aims, and beneficiaries' percep-

tions of the programme. Organisations can adjust the contents and scope of their programmes accordingly to better meet beneficiaries' needs. The results of such evaluations can also be used as supporting evidence for programmes seeking to secure additional funding or the support of partners to continue their programme.

While baby box organisations acknowledged the value of programme evaluation, many found it difficult to conduct a sufficient impact evaluation. Organisations frequently reported difficulty in designing a suitable evaluation strategy, especially surrounding the decisions of what to measure and how to measure it. Additionally, many programmes were in the early stages of implementation, making it difficult to gather statistically significant sample sizes for scientifically valid evaluation. Other practical concerns included limited budgets and unreliable data collection. Programmes collaborating with partners to deliver boxes sometimes relied on the same partners to conduct an evaluation for practical purposes. However, this partnership did not always allow the programmes to directly control the quality of the collected data.

Organisations may be able to address these design challenges by developing evaluation strategies based on the programme's purposes and intended aims. The baby box programme in Jordan was a part of a wider multi-component programme, which aimed to empower women in a refugee camp via increased access to livelihood opportunities. Therefore, the organisation conducted end-of-project cycle evaluations and commissioned an independent researcher to monitor the programme and assess its expected impact on women's empowerment in the camp, their ability to meet their financial needs, and their role in making decisions within their family and community, as well as the expected impact on the reduction of domestic violence among programme beneficiaries.

Programmes with quantitatively measurable aims, such as increasing rates of ANC or facility deliveries, may find it easier to conduct an impact evaluation. The evaluation of programmes in South Africa and Zambia were designed as randomized controlled trials to assess whether the baby box intervention would incentivise mothers to promptly seek ANC or deliver at a health facility. The programme in Canada evaluated their intervention's effects on maternal psychosocial health by examining mothers' postnatal depression scale scores throughout the study.

Several programmes also considered economic data while evaluating their programmes. The study in Zambia included a cost-effectiveness analysis, measuring the estimated cost for each maternal or neonatal death averted by the baby box intervention. The programme in Canada acknowledged the importance of including economic data, such as return on investment data, in future evaluations.

Other programmes designed their evaluations using a more qualitative approach by collecting beneficiary feedback. Beneficiary feedback typically included whether items in the box were useful and which elements of the programme did or did not work well for them. Feedback was collected in various ways, such as conducting interviews, group discussions, or surveys. Programmes used beneficiary feedback to revise their approach and the contents of their boxes, as well as to foster a more human-centred, locally and culturally relevant programme. Programmes emphasised the necessity of collecting user opinions as early as possible in programme development to orientate further pilots or the official launch. For example, the programme in Scotland conducted development-stage research with parents. They used the results to guide decisions regarding the box contents, the optimal time for parents to receive the box, which health professional would be best to communicate with parents, and which core messages most accurately relayed the programme's intentions to the public.

In addition to evaluating the programme's impact on beneficiaries, monitoring and assessing operational processes also played an important role in helping programmes achieve their goals. Programmes commonly obtained operational data by keeping records of delivered boxes and box recipients, as well as recipient participation in related classes, activities, and events. The programme in New Zealand developed a monitoring and evaluation system based on the theory of change, a methodology which can be used to define the inputs and outputs required to achieve long-term social change. Their system included both operational data and user feedback not only to continually refine the operation of the programme, but also to measure the degree to which the long-term goals were reached.

Implementation of a baby box programme requires a significant amount of time and must be continuously refined throughout the duration of the programme. Obstacles may arise in any part of a programme and through every stage of a programme's lifecycle. Fortunately, these challenges are also the springboards for future innovations that may improve the lives of baby box recipients: mothers and babies.

9 CONVERSATIONS

Here we expand on the results of our Thinking Outside the Box study to explore timely topics surrounding the baby box. The following questions have generated interest in the media, general public and academic circles. Globally, the vital need to support infant and maternal wellbeing has guided questions about the baby box and its potential role in safe sleeping, social protection, gender issues, humanitarian emergencies including refugee settings, and children's rights. The international scope of our study encourages an insightful, diverse set of conversations surrounding these and other timely topics, presented in this chapter.

9.1 Baby boxes, safe sleeping and sudden infant death syndrome (SIDS)

Many baby box programmes aim to promote awareness about safe sleeping practices for babies. In 20 of the 29 interviewed programmes, the container for the baby box items was a box, cradle, or basket designed to be used as a safe sleeping space. Ten out of 29 programmes mentioned Sudden Infant Death Syndrome (SIDS) or safe sleeping as a concern. SIDS is a subcategory of Sudden Unexpected Infant Death (SUID), an umbrella term which includes sudden and unexpected death during infancy, whether explained or not. Although the incidence of SUID has decreased, SUID is still a persistent contributor to post-neonatal deaths in many countries (Shapiro-Mendoza et al., 2018).

Approximately 95% of SIDS deaths occur in the first 6 months of life, with a peak incidence between 2 to 4 months (Duncan and Byard, 2018). SIDS is only diagnosed after excluding other possible causes for infant death. The mechanisms of SIDS are complex and involve interactions between various individual and environmental factors (Duncan and Byard, 2018). Although knowledge about SIDS is limited, SIDS rates were reduced follow-



Insights

Risk factors and protective factors for SIDS

There are several known risk factors that contribute to SIDS. One important and modifiable risk factor is infant prone sleep position (baby sleeping on stomach), and placing an infant to sleep on their back has been shown to significantly reduce the risk of SIDS (Goldberg, Rodriguez-Prado, Tillery et al., 2018). Other known risk factors include prenatal and postnatal tobacco smoke exposure, sleeping on soft or cushioned surfaces (such as sofas, couches, and armchairs), bed sharing, soft bedding, head covering, overheating, prematurity, and male sex (Moon and Hauck, 2018; Duncan and Byard, 2018). Protective factors against SIDS include breastfeeding, dummy (pacifier) use, and room sharing, where the infant shares a room with the parents but sleeps on a separate surface (Moon and Hauck, 2018).



Insights

Baby boxes at the centre of political negotiations

In Finland, the baby box programme and other untargeted social benefits have not raised much objection. However, a recent programme based on the Finnish baby box scheme, wherein the box is given regardless of the family income level, has triggered some political discussion. This programme was launched in the context of a wider reform of social security benefits. The programme replaced and expanded on previous support for lower-income families during the early years of a child's life. However, actors representing opposing political views were critical. Criticisms varied and included arguments against the safety of the baby box.

Social benefits and whether they should be given to all or to targeted disadvantaged groups continue to be points of political debate. Another debated question is the extent to which policies should interfere with personal choices. As the popularity of baby box schemes has increased globally, baby box programmes, especially large ones, may encounter such debates and be framed or represented in light of these discussions.

ing the introduction of several safe sleep campaigns in the late eighties and early nineties, which advocated placing babies on their backs to sleep (Hauck and Tanabe, 2008). These campaigns were estimated to reduce SIDS rates by 30-83%, with current SIDS rates standing at 0.2–0.5 per 1,000 live births depending on the country (Goldstein, Trachtenberg, Sens et al., 2016; Duncan and Byard, 2018). Globally, there were an estimated 15,000 deaths from SIDS in 2013 compared to 22,000 deaths in 1990 (Krokstad, Ding, Grunseit et al., 2015). However, there has been significant variation in the diagnosis and reporting of SIDS between, and even within, different countries. It has been recently suggested that the decline in SIDS may be partially attributable to variations in the classification and reporting of infant death (Shapiro-Mendoza et al., 2018). Additionally, SIDS may be underreported in the Global South (Ndu, 2016).

Finland currently has one of the lowest SIDS and infant mortality rates in the world. In 2016, 103 children died under the age of one in Finland, translating into an infant mortality rate of 2.0 per 1000 live-born children. Of those 103 deaths, 8 were caused by SIDS. (Statistics Finland, 2017.) Some actors have proposed an association between Finland's low SIDS rate or infant mortality rate and the Finnish baby box programme. However, similar to most Western countries, SIDS rates in all Scandinavian countries, including Finland, dropped dramatically after 1990 in the era of safe sleep campaigns and has reached a level-low plateau in recent years (Rognum, Vege, Stray-Pedersen et al., 2018). All Scandinavian countries recorded SIDS rates below 0.2 per 1,000 live births in 2015 (Rognum, Vege, Stray-Pedersen



Insights

Are baby boxes safe?

There is the question of whether baby boxes, here discussed as containers intended by baby box programmes for use as a sleeping space for the baby, are suitable and safe for such use. For instance, flammability and durability of the box, as well as possible difficulties in monitoring the sleeping infant, are among the discussed issues (Blair, Pease, Bates et al., 2018). The answer to this question is complex, as the safety of the box inherently depends on how programmes translate and implement the concept, as well as the contexts in which the box is used. Further, there are no universal safety standards for non-traditional sleeping spaces for babies, such as the baby box. In Finland, the box is considered safe and parents are encouraged to use it as the newborn's first crib (Hakulinen and Gissler, 2017). The Scottish Baby Box is marked with the European Standard on Cribs and Cradles for Domestic use (How safe is the baby box?, undated). We recommend that programmes take institutional, national or regional guidelines into consideration to ensure that the box and mattress, if included, meet all safety requirements regarding structure, maximum load, materials and hazardous chemicals, stability, firmness, and other specifications. Programmes should consider including instructions, particularly where it is possible that beneficiaries will not be familiar with the concept and unsafe use might occur. A safe sleeping space for the newborn depends on several factors in addition to the physical cradle or box, such as the surrounding environment and parents' awareness.

et al., 2018). In particular, Sweden and Finland have recorded similar SIDS rates, yet Finland is the only Scandinavian country with a baby box programme. Moreover, only 37% of Finnish parents reported that they use the box as a sleeping space for the baby (Haataja and Koskenvuo, 2017). In addition to these factors, no research has been conducted on the impact of the baby box on SIDS in Finland. Therefore, it is important for programmes to be cautious of making claims that Finland's low SIDS rate is attributed solely to the baby box's potential as a safe sleeping space.

Baby box programmes are, however, still capable of promoting safe sleeping practices, particularly having the baby sleep near the parents on a separate surface intended for babies. Provided that the baby box is constructed taking safety recommendations into account, it can be useful for families whose baby would otherwise sleep on the floor, which may be the case in resource-constrained contexts, or whose baby would share a sleeping space with their parents or siblings. Further, in our Thinking Outside the Box study, we found that baby box programmes represent a promising avenue to promote safe sleep through multiple additional approaches, such as providing education on safe sleeping practices for parents and encouraging breastfeeding and adequate ANC.

9.2 Baby boxes as in-kind transfers to enhance social protection

Social protection is an important component of the United Nations Agenda 2030 for Sustainable Development, supporting reducing poverty, and increasing health and wellbeing. Social protection or social security is defined as the collection of policies that aim to ensure individuals' adequate living and good health. (UN, 2018.) These may include, for example, cash transfers for children, older people or those with illnesses, housing benefits, childcare benefits, or other benefits given to individuals. Social protection systems are a target under the Sustainable Development Goal 1 of ending all forms of poverty everywhere (Rosa, 2017). Social protection programmes traditionally focus on the most vulnerable in society and those who need more assistance in their wellbeing, including women and children (Tebaldi and Myamba, 2017). Social transfers, whether cash or in-kind, form an important and growing part of social protection programming, especially in many developing countries. Such programmes can reduce poverty and improve the health and education of children (UN, 2018).

While handing out baby boxes could be seen as a form of incentive, they may also be discussed as a social protection approach to supporting parents and their newborns. The baby box could be considered to be an in-kind social transfer, as it includes tangible items, such as baby clothes and care products.

There is an ongoing discussion about the pros and cons of conducting in-kind versus cash programmes. Many view cash as superior in terms of the recipient's utility and have been sceptical about in-kind transfers (Currie and Gahvari, 2008). The recipient can use cash for anything she or he sees fit, whereas in-kind transfers could be seen as constraining



Insights

The baby box as an incentive

In health economics, the baby box would probably be considered as a personal incentive to promote desirable health behaviour. Incentives have been used, for example, to influence behaviours related to antenatal care use (Burr, Trembeth, Jones et al., 2007), smoking cessation (Adams, Giles, McColl et al., 2014), timely vaccination uptake (Hagger, Keatley, Chan et al., 2014; Lynagh, Sanson-Fisher and Bonevski, 2013; Stephens, 2014) and healthy diet (Just and Price, 2013; Olsho, Klerman, Wilde et al., 2016). While many schemes have been successful, one debated issue is that, although research indicates that incentives may motivate the uptake of healthy behaviours, it is not clear whether they can lead to a long-term change in behaviour once they have been removed (Bachireddy, Joung, John et al., 2019; Just and Price, 2013). In baby box programmes, however, this may not be an issue: conditions are often targeted towards a one-off or a short-term behaviour change, such as giving birth at a health facility. Exploring the mechanisms and impact of conditional baby box programmes not only from the perspective of social protection but also from that of health economics may contribute to timely discussions in health and beyond.

the recipient's behaviour, which may be considered paternalistic (Currie and Gahvari, 2008). Additionally, cash can reduce administrative costs.

As an in-kind benefit, the baby box does not allow parents to decide how to use the support. However, we argue that deciding useful items for families before distribution can be helpful. Firstly, new mothers may have difficulties in prioritising the needs of the baby or herself as a new mother, which might be the case in the contexts or situations where the mother has limited decision-making power in the family. Second, the baby box, particularly when containing clean birth items, may be useful when the items would otherwise be unavailable. This could be the case in contexts such as disaster or refugee settings. Third, a pre-selected set of items may be superior to cash when it is inconvenient or difficult to select or search for the items needed, which may be a concern for first-time mothers. Finland may be viewed as an example: 95% of first-time mothers choose the box over the alternative cash grant (Haataja and Koskenvuo, 2017) and it is possible that the convenience of pre-selected items is a contributing factor. Many baby box programmes also invest extensively in planning and research to put together a package that fits the needs in local circumstances, thereby increasing its desirability and utility. Fourth, as organisations typically purchase the items in bulk, they are cheaper compared to what an individual person would pay for them using cash. Finally, managing in-kind transfers may have a smaller likelihood of corruption than managing cash.

When considering whether to use cash or in-kind support, it should not be an either/or question. In Finland, mothers can choose between taking the tangible box and cash. Further, this maternity grant is only one form of support for expectant mothers. Other forms include, for instance, a maternity allowance.

Another common question surrounding social transfers and the baby box concept is whether or not the transfer is conditional. Conditional Cash Transfers (CCTs) are payments to poor households on certain conditions, often related to investment in children's health and education such as school attendance, medical check-ups, or vaccinations (Ibarrarán, Medellín, Regalia et al., 2017). These programmes generally aim to promote wellbeing, and they often rely on women as the recipient of the funds (Tebaldi and Myamba, 2017). As in CCTs, many baby box programmes included in our study had required beneficiaries to meet one or more conditions to receive the box. In baby box programmes, these conditions were usually related to ANC, parental education, and child health (see section 4.3 for details). It has been argued that conditional or targeted access to social protection may result in ethical issues, such as exclusion of those who are most in need, as well as high administrative costs (UN, 2018). For example, keeping track of children's school attendance as the condition for CCT requires administrative capacity and may also hinder inclusion in the programme if the school is far from the family (UN, 2018). In the absence of baby box specific evidence,

baby box programme organisers should consider whether making a baby box conditional excludes mothers who might need such intervention the most. However, there is evidence that CCT programmes have positive short- and long-term impacts on various issues, including health, use of health services, nutrition, and education (ILO, 2013; Millán, Barham, Macours et al., 2019), suggesting the same possible potential for a well-designed baby box programme.

In conclusion, we see the baby box as a multidimensional social support tool. It has a significant potential for further innovation, development and integration with other efforts to advance the lives of mothers, babies and families.

9.3 Baby boxes, gender and maternal health

Interventions aiming to produce long-lasting changes in maternal health must address underlying causes, such as poverty and gender power relations. Gender inequities have a negative effect on maternal health and wellbeing and can compromise access to and use of maternal healthcare in many ways (Morgan, Tetui, Muhumuza Kananura et al., 2017).

Hundreds of people worldwide die each day due to complications of pregnancy or childbirth (Alkema et al., 2016); even more are suffering from maternal morbidity and disability (Koblinsky et al., 2012). Lack of access to, or use of, quality maternal healthcare is among the causes of preventable maternal death and ill-health (Every Woman Every Child, 2015). The baby box concept has the potential to function as an agent of change in maternal health, particularly through linking the baby box to uptake of ANC and facility delivery.

The baby box in pregnancy

In several programmes, the main role of the baby box was to incentivise mothers to attend ANC. ANC represents an opportunity to prevent or manage potential or existing causes of maternal and newborn mortality and morbidity (Moller, Petzold, Chou et al., 2017). However, only two-thirds of pregnant women globally met the WHO-recommended minimum of four contacts with ANC (WHO, 2016), and recommended contacts have since increased to eight. There are a multitude of reasons for not seeking ANC. Pregnant women may not see the value of such care, may not be able to access the healthcare facility, or they may receive poor quality care at the facility (Downe, Finlayson, Tunçalp et al., 2019). Some of these barriers are beyond the baby box concept, but in other cases the levels of ANC uptake can be increased with a baby box (Rossouw et al., 2017; Shapira el al., 2017). However, it is important to understand that in many contexts, lack of participation in ANC is not the informed choice of the pregnant woman. Although maternal health has traditionally been



Insights

The men behind pregnancy-related problems

A small island state with a developing economy has one of the highest maternal mortality rates in the world, with only 40% of births supervised by a skilled birth attendant and around 1,300 women dying every year of pregnancy-related issues (UNFPA, undated). In analysing maternal and perinatal death rates, the “three delay” model, originally developed by Thaddeus and Maine (1994), is often used to pinpoint factors that may prevent pregnant women from receiving appropriate healthcare. The model refers to delays in seeking care, in reaching a health facility, and in the provision of adequate care. A local baby box programme in this island state looked into the issues complicating access to safe childbirth. Although the reasons for delays in women receiving healthcare are multifactorial, and the programme addressed them holistically, here we focus on the role of men and the cultural aspects of gender inequality. The programme’s observations are summarised as follows. Men largely controlled decisions regarding family planning (or lack thereof). This often translated into a lack of women’s ability to make informed choices, as well as lack of access to contraceptives and, consequently, a relatively large number of tightly spaced births. Further, men did not necessarily allow their partners to attend a health facility for antenatal care or delivery, placing the mothers at risk for complications. In this context, failure to seek care was largely affected by the culture of male dominance in household decision-making.

considered a woman’s domain, men are the decision-makers and financial providers of the family in many settings (Yargawa and Leonardi-Bee, 2015). Recognising this, some baby box programmes explicitly aim to involve fathers during pregnancy. Critically analysing men as gatekeepers for timely access to maternal health services, viewing men as responsible partners in reproductive health and agents of positive change, as well as encouraging men to be involved as fathers, can contribute to improving maternal and newborn health (Greene, Mehta, Pulerwitz et al., 2006; WHO, 2015b). Increasing male involvement in pregnancy can result in better nutrition during pregnancy, increased access to antenatal and postnatal care, timely emergency obstetrics care and a decrease in postpartum depression (Yargawa and Leonardi-Bee, 2015).

The baby box in childbirth

Several programmes use baby boxes as an incentive for mothers to give birth at a health facility. Encouraging facility delivery is essential for the health of both mother and newborn, as it increases the chance of skilled personnel attending the birth (Montagu, Sudhinaraset, Diamond-Smith et al., 2017). Facility-based delivery rates have increased over the past few years in Asia and Africa, yet only 65% of deliveries there are attended by a health provider.

In addition, major inequalities in facility delivery rates still exist between poor and rich, and rural and urban women. (Diamond-Smith and Sudhinaraset, 2015.) Baby box programmes can set facility delivery as a condition for a mother to receive the baby box and thereby encourage an increase in births where skilled personnel attend the delivery. Moreover, tangible support can reduce the stigma of low-income expectant mothers who, in Papua New Guinea, for instance, did not visit health facilities because they felt ashamed of their impoverishment (Kirby et al., 2015).

The baby box after birth

After birth, the pressure of childcare mainly falls on women in rich and poor countries alike (Hunt and Samman, 2016). To enhance male involvement in taking care of the baby, baby box programmes operating in Colombia, Ghana, Jordan, and Papua New Guinea provided educational sessions for fathers. Their aim was to equip fathers with childcare knowledge and to encourage them to interact with their babies and participate in their care.

During the months after childbirth, the tangible items within the box may relieve both financial and psychological burdens of new mothers. The provision of baby boxes specifically to mothers allows programmes to pursue aims related to women's empowerment. For example, a baby box programme in the US included condoms to serve as a reminder that women should have control and decision-making power over their own sexual and reproductive health.

In conclusion, gender aspects and concerns are at the very core of the baby box concept, therefore including gender dimensions in planning and implementing a baby box programme is crucial. Baby boxes themselves may support gender-related aims in various ways. For example, linking baby boxes to ANC attendance or facility delivery is practical from a chronological perspective for both the box provider and the recipient, as baby boxes are usually given to mothers very close to the time of birth. Additionally, baby box programmes can be used to support women's collective engagement in their communities, which has been shown to be as important as providing financial support (Tebaldi and Myamba, 2017). In some cases, baby box programmes prompted new dialogues and encouraged the development of valuable social networks of mothers and peer support groups, in which mothers could exchange experiences and transfer knowledge. In many instances, the fathers were involved in these dialogues. Both men and women must be addressed if gender roles are to be transformed (Green et al., 2006) and the baby box concept is no exception. By placing newborns' and mothers' needs as a priority, the baby box can promote the message of gender equality.

9.4 Baby boxes' potential in humanitarian emergencies

The baby box has potential to support families not only in their normal, everyday lives at home, but also when this normalcy is disrupted or removed. At the end of 2017, the number of people forcibly displaced from their homes reached 68.5 million worldwide, the highest level on record (UNHCR, 2018). The cause of displacement is often a human-made crisis or natural disaster. Humanitarian emergencies affect men and women differently. Women and girls are the most vulnerable when displaced, as they lose protection and support structures and face extra tasks and responsibilities (ActionAid, 2016). Women may abruptly find themselves as the main breadwinner in the family. Affected by social norms and gender inequalities, women strive to make ends meet.

Women do not stop giving birth during crises and disasters, yet they are at an increased risk for adverse, preventable reproductive and sexual outcomes, such as unwanted pregnancy, sexually transmitted infections, gender-based violence, and maternal mortality. It is estimated that some 500 people die every day from the consequences of pregnancy in emergency settings (UNFPA, 2015). Addressing the physical, mental, reproductive, and social needs of the growing number of refugee women is crucial (Malebranche, Nerenberg, Metcalfe et al., 2017).

The Syrian war has been a large-scale humanitarian crisis, during which many organisations focused efforts on rescuing Syrian refugees in neighbouring countries. Two baby box programmes targeted these populations through two different approaches. The baby box programme in Lebanon included training for local midwives, who were usually traditional birth attendants or community health workers in need of further training. The trainees were also advised to have a conversation regarding fistulas and child marriage with mothers during antenatal visits. The programme in Jordan targeted women in the Za'atari refugee camp by engaging them in the production of baby boxes. This was a part of a comprehensive programme called Cash for Work where women were given the opportunity to influence their community and make a living. From the women's perspective, the programme empowered them not only through providing financial support but also through restoring their social networks, reducing isolation, and strengthening decision-making power (UN Women, 2016). Further, Cash for Work programme encouraged pregnant women to attend ANC, breastfeeding lessons and immunisation programmes (UN Women, 2016).

We also interviewed two baby box programmes operating in natural disaster settings. Those programmes focused on providing quick solutions to urgent challenges, such as offering basic hygiene items after delivery. The programme in Haiti, which operated after hurricane Mathew, also included a comforting toy in the box to give the baby a sense of normalcy despite the harsh reality. The other interviewed programme was initiated after the mud slides in Sierra Leone and is presented in Programme overview 6 (p. 74).

Programme overview 6. Sierra Leone.

Organisation	UNFPA
Project	Mama-baby packs
Project type	A part of multi-stakeholder disaster response
Target group	Pregnant women affected by flooding and mudslides in Sierra Leone in particular communities
Aim	To provide pregnant women essential resources and support access to ANC. Women also receive an additional check-up for possible injuries by disaster, counselling and health education.
Condition for receiving the maternity package	None
Number of packages delivered in 2017	146
The package	Baby clothes, hygiene and care items, a wrap and a blanket, a cup
Special about this programme	<ul style="list-style-type: none"> • The package comes in the form of a bag and a bathtub. The tub can provide a safe place to sleep in camp situations where parents and siblings may sleep on a same mat in a small tent with 5–6 people. • Some of the mothers are actually girls aged 15 and under. • They also provide women and girls in reproductive age with dignity kits, which can be used for 1–2 first months at the camp.
They say	During the mudslide many women lost all their belongings. One of the main aims was to get pregnant women ready for delivery.

The likelihood of being displaced due to natural disasters has increased twofold since 1970. This trend is likely to continue, as scientists widely agree that the negative impacts of climate change will increase the displacement of populations. (UNHCR, 2017.) At the same time, factors such as protracted civil wars and conflicts have increased in recent years and largely contribute to displacement (Institute for Economics and Peace, 2018). Baby box programmes may represent a valuable contribution to relief efforts in these increasingly critical global events.

Refugees and disaster survivors may have lost everything and been forced to take refuge under challenging circumstances. In such contexts, where material and psychological support is critical, the items in a baby box can have a significant impact and preserve dignity. Baby boxes can also create opportunities for investment in human capital by providing jobs and building capacity during prolonged political or natural crises. In conclusion, the baby box can provide much-needed support to families during one of the most difficult periods of their lives.

9.5 The role of baby boxes in promoting children's rights

Due to children's inherent vulnerability and immaturity, special care must be taken to ensure that they are able to exercise their human rights (UN OHCHR, 1989). The United Nations Convention on the Rights of the Child (UNCRC) is the most comprehensive and most-widely ratified document of children's rights ever produced. It consists of 54 articles that cover all aspects of a child's life and set out the civil, political, economic, social, and cultural rights to which all children around the world are entitled. Baby box programmes carry the potential to uphold children's enjoyment of these rights in many ways.

First, the baby box concept aligns with the child's right to life and survival. As illustrated in this report, the box is often used as an incentive for pregnant women to attend ANC or to give birth at a health facility. Proper care, pregnancy monitoring, and supervised delivery are critical interventions to ensure an infant's right to life (WHO, 2016). In rural Zambia, the baby box programme resulted in a significant increase in facility delivery rate (Wang et al., 2016). This is one example of how the baby box, when used in contexts that encourage pregnant women to access crucial health services, may potentially impact the baby's chances to survive during the critical early stages of life.



Insights

Baby box and children's rights in prison

When parents throughout the world are sentenced to prison, children suffer the consequences. Some prisoners are pregnant and have no choice but to give birth and raise their babies behind bars. The babies' length of stay and living conditions in prison vary between countries, but they always present a challenge that raises fundamental questions on children's rights.

The Convention on the Rights of the Child declares that a child should not be separated from their parents against the parents' will. At the same time, the children should have a right to freedom and states should only deprive that as a measure of last resort and for the shortest possible period of time. Prison circumstances also make it difficult to ensure a child's right to development, education, leisure, play and culture. However, due to shame and stigma, relatives may not want to take in the child and, in some contexts, there may not be many alternative safe places to send the child.

What decisions are in the babies' best interest? While there are no clear answers to this question, a South Asian baby box programme is trying to make life a little better for mothers and children in prisons in rural areas. In the harsh prison environment, the women have very little to offer to meet even the basic needs of their babies. The box includes warm clothing for the baby, reusable diapers and a nutrition package for the mother consisting of beans and other food items for three months. However, equally important is the message of hope that the programme wants to convey to the stigmatized mothers: that they and their babies are valuable, despite the circumstances.

Beyond survival, the right to an equal start, reflected in the Convention's non-discrimination principle, is a core value among many baby box programmes. Some programmes aim to achieve this by reaching out to all pregnant women in their operating areas regardless of their socioeconomic status. This universal approach is often motivated by the idea that offering the box to all mothers may reduce the stigma of being poor or otherwise underprivileged. In other programmes, an equal start means offering the box to specific disadvantaged groups. For example, one programme targeted mothers with disabilities as they considered them particularly vulnerable. Another baby box programme decided to support mothers giving birth in prison to address their unique requirements for physical and emotional support.

Even if a baby survives, unless the birth is registered, government officials have no documentation of the baby's existence. In Mexico, a baby box programme focused on the child's right to birth registration. If babies are not registered at birth, they may encounter barriers to access to healthcare and education. Further, without birth registration, the law cannot protect children from crimes and abuse. In light of this, birth registration was set as a condition for Mexican mothers to receive a baby box in a few locations and the results were encouraging. According to the organiser, some clinics in the programme achieved considerable improvements in birth registration rates.

The Convention further states that governments must do all they can to ensure that children develop to their full potential. While all baby box programmes are built on this foundation, each programme has its own focus and methods of achieving this aim. Some programmes focused on early development by encouraging parents to interact with their children. The programme in Canada, for example, educated parents about a behavioural neuroscience approach which emphasised the importance of parent-infant relationships in early brain development and lifelong wellbeing. Another programme, which supported an ethnic minority population, focused on babies' early exposure to their mothers' native language. This goal is consistent with the right of a child to learn and use the language of their family, whether or not it is shared by the majority of the people in the country where they live.

Babies also need protection from violence, abuse and neglect. Echoing this principle, some programmes chose to address violence towards children by providing parents with educational materials or other means of guidance. For example, the programmes in Australia and Ghana considered the box as a tool to engage parents with talks on parental behaviours, such as avoiding physical punishment of children.

Babies are at a very critical and vulnerable stage in their life and are especially in need of the protection of states, families, and other actors within the society. However, millions of

babies around the world are still neglected and denied their fundamental rights, which can undermine development or lead to preventable deaths (WHO, 2017). Whether programmes achieved their intended aims via the actual box items, a condition requiring a change in mothers' health behaviour, or education for parents, many programmes saw their interventions as a way to actualise the principles within the Convention. By tackling the issues of appropriate care before and during birth, birth registration, early development, and other challenges, baby box programmes potentially contribute to the survival and wellbeing of babies, especially the most underprivileged ones.

10 CONCLUSIONS AND RECOMMENDATIONS

To our knowledge, this report presents the results of the first-ever study of baby box programmes worldwide. Additionally, it situates the baby box in the contexts of timely global discussions. The primary goal of this report is to provide foundational knowledge and insight into the evolving baby box concept for parents, researchers, current and potential baby box implementers, and policy makers, as well as anyone interested in the topic.

10.1 Discussion

We started our journey by introducing the history of the Finnish baby box, which has supported many generations of Finnish families by providing useful material assistance. The historical review of the Finnish baby box highlights the importance of analysing a social innovation, such as the introduction of baby box in Finland, within the holistic context of socioeconomic development. Experts agree that the baby box has acted as an important incentive for Finnish mothers to attend antenatal healthcare. In a broader context, the Finnish baby box programme embodies Finland's commitment to public policies that value mothers, babies and families.

After this historical review, we continued by presenting the results of our mapping of global baby box programmes. Today, baby boxes can be found from Nepal to Papua New Guinea, on almost all continents. Our main finding was that no two baby box programmes were the same. The diversity and innovation of the programmes highlights the adaptability and flexibility of the baby box concept. The baby box has taken many forms, from parcels to buckets, and has been distributed under various claiming conditions. In addition to the physical baby box, programmes often included a wide variety of educational approaches to provide health promotion and information to support new parents around the world. These adaptations are encouraging, as each community and context has its own unique needs, and simply replicating the Finnish baby box programme without respect to local considerations will likely be met with many obstacles.

The focus areas of mapped programmes related to their aims of reducing infant or maternal mortality, promoting the wellbeing of babies and mothers, easing financial and parenting burden, encouraging uptake of health and community support services, and strengthening communities and reducing inequalities. Some of the interviewed programmes intended to achieve these aims by including conditions to encourage parents to make beneficial choices for the baby and family. We believe there are pros and cons to both conditional and unconditional programmes. On one hand, we believe that the baby box has the potential to function as an incentive that may support particularly short-term or one-off behaviour changes around the time of birth. By encouraging parents to make good choices around the time of



Photo 9. The baby box programme in Honduras delivers baby boxes to some of the public hospitals. They explain the box and contents to the mothers and give advice on newborn care. © Alejandro Ochoa Fletes.

birth, conditional programmes may positively influence the child's development, growth, and learning for the rest of their life. On the other hand, in addition to the potential ethical challenges that may arise in conditional programmes, in disaster and refugee settings especially, it may be more fitting to have a no-strings-attached approach.

Some interviewed baby box programmes pursued universalism, in that they offered a baby box to all pregnant women in their operating area, whereas others targeted specific vulnerable groups. We believe that a universal approach ensures high coverage, also among those most in need. A targeted approach may contain gaps or carry additional financial costs due to means-testing or other methods of defining the target audience. Yet, many programmes found a targeted approach to be more feasible and financially sustainable. Both approaches have the potential to reduce poverty-related stigma, either by providing essentials to the most impoverished in targeted approaches or providing uniform resources to all in universal approaches.

We continued the discussion by reviewing the tangible box and its contents, as well as the various components related to education and social interaction. We feel that the baby box is not only about the items, but also about communication. This communication can take

place between the programme providers and the beneficiaries, as well as between mothers, between family members, and between parents and health or community support service providers. The baby box has the ability to facilitate or advance all of the following relationships.

- First, programme implementers have an opportunity to provide mothers and families with knowledge, skills, information, and encouragement. In most programmes, this opportunity is not a one-way avenue, as mothers have direct or indirect ways to give feedback or ask questions. Ideally, this collaborative discussion would already begin in the preliminary planning stages, before the programme starts.
- Second, many programmes have a peer support component which allows mothers to share experiences, and potentially offers encouragement and increases their level of confidence.
- Third, the baby box may facilitate communication between family members. For instance, this may take the form of a children's book for parents to read to their baby, or condoms to encourage communication about family planning between the parents.
- Fourth, there are commonly obstacles in the initiation or maintenance of communication between parents and health or social services. When provided via, for instance, health services, baby boxes provide an opportunity to build a positive relationship between the service providers and recipients. This is important, as dysfunctional communication has a negative impact on how families access and attend health services that were specifically intended for their use. This is particularly important during the vulnerable time of pregnancy and birth. For instance, in an online health education module provided by a hospital-based baby box programme, nurses and doctors from the local hospital appeared in the video clips, so that mothers "knew" them already when coming to the ward to give birth.

Finally, after exploring the variations and adaptations of the baby box around the world, we expanded on the emerging, timely discussions surrounding the baby box and its potential role in these key areas. One issue commonly associated with the baby box is SIDS and safe sleeping. In light of the lack of research on the role of the baby box and SIDS, in Finland or elsewhere, it is not advisable to draw conclusions based on Finland's low SIDS rates. It is important to consider that other Scandinavian countries have similar SIDS rates but no baby box programmes, and, even in Finland, only 37% of Finnish parents use the box as a sleeping space for the baby. However, providing education on safe sleeping practices, breastfeeding and the importance of ANC are the core purposes of many baby box programmes.

In this way, the baby box can be considered as a potential pathway to promote safe sleeping. Additionally, provided that the baby box is constructed taking safety recommendations into account and used properly, it supports the guidelines advising that babies sleep in the same room as the parents but on a separate surface. We encourage programmes to consider known SIDS risk factors, such as maternal smoking and prone sleeping position, when aiming to educate parents regarding SIDS or promote safe sleeping.

Throughout this report, we have woven the potential, various impacts of the baby box across many contexts. The impact of the baby box is of timely concern as governments are increasingly interested in the baby box programme parallel to the rising popularity of the concept. A major question that decision-makers face is whether the box works. The answer is not straightforward, but rather dependent on the aims and desired outcomes of a programme. In addition, while most of the interviewed programmes had gathered some form of evaluation data, due to logistical or financial constraints, few programmes measured the impact with a scientific approach. We ultimately intend for our findings to be a foundation for further research, as we believe that there is much room for continued study and innovation.

Regarding the future impact of the baby box, we believe that its potential to influence multiple aspects of health and social wellbeing is expansive and largely untapped. Baby box programmes can support the psychosocial wellbeing of mothers and families. The possible life-saving potential of the baby box lies in programmes which aim to use it to increase ANC uptake and facility delivery where these rates are traditionally low. While the evidence base for the impact of the baby box is only emerging, in many contexts the baby box could plausibly be introduced within the wider framework of critical efforts to reduce preventable causes of infant and maternal mortality and morbidity. Yet another promising but rarely explored future impact is the potential of the baby box to increase birth registration, which is currently a global concern of crucial importance. We envision that a particularly promising implementation of the baby box concept would involve a multistage intervention combining conditions such as ANC, facility delivery and birth registration.

Below, we present our recommendations for current and prospective baby box programmes in light of the findings of this study. With these recommendations, we would like to include the reminder that replicating one aspect or the entirety of any intervention without respect to local context is unlikely to succeed. We encourage readers to think outside the box and consider local needs and contexts. While at a glance, the baby box programme may give the impression of a vertical intervention or a magic bullet approach, we found that none of our interviewed programmes were one-cause endeavours. Instead, they aimed to address maternal and newborn wellbeing from multiple angles. Rather than bypassing local health or social system structures, they were complementary to them. Several programmes were well-integrated into antenatal or postnatal care, serving as links to valuable resources

for families outside of their own services or programmes. These multifaceted approaches highlight how the complex nature of maternal and infant wellbeing necessitates thorough and diligent consideration of local contexts. The following recommendations should be considered in a similar light.

10.2 Recommendations for baby box programmes

On the basis not only of the results of our global mapping study but also more broadly on what we have learned during our journey, we recommend that:

- Programmes take local context in careful consideration. Programme components, such as the box and items, intended audience, conditionality, educational elements, and delivery mechanisms should be constructed based on the needs of the intended beneficiaries and adjusted according to the operational environment, taking into account scientific evidence and governmental guidelines and regulations. Feedback from beneficiaries, local health workers or local partnering organisations should be frequently collected.
- Programmes plan the scope of the programme and evaluation methods from the very beginning and pilot their programme prior to full implementation. The intended outcomes should be clearly outlined before the implementation to facilitate an evaluation later on. This enables scientific impact evaluations capable of building up the baby box evidence base.
- Programmes consider becoming more sustainable and ecologically-friendly. We strongly support the use and prioritisation of local resources, as locally produced items may create jobs and be more practical, environmentally friendly, and culturally sensitive.
- Programmes recruit local people to conduct community-level work, as they more likely understand the local circumstances and stay within the community. The concept in which vulnerable local people produce the baby box items may be a win-win. This option should be further studied and explored.
- Programmes reach out to and cooperate with existing systems, such as those related to healthcare or social or community support services, to ensure comprehensive support that complements rather than bypasses existing structures and services.
- Programmes include education, counselling, or peer support. Using multiple channels – such as educational events, webpages, social media, and printed materials – increases parents' access to the information and support. In particular, breastfeeding is a

worthwhile consideration due to its low prevalence in many countries. As the boxes are usually given shortly before or immediately after delivery, such timing is suitable for increasing awareness of the importance of breastfeeding.

- Programmes explore the option to work in disaster and refugee settings, when relevant. Baby boxes can be particularly helpful in settings where people may have literally lost everything. The inclusion of clean delivery items in the baby box is likely to save lives in fragile contexts but arouses further questions on whom to give the items to and proper storage and usage of the items.
- Programmes consider national or international infant safe sleep guidelines and regulations, as well as scientific evidence, when designing and marketing their baby box and programme. We encourage programmes to be cautious about drawing conclusions about the baby box's impact on infant safe sleeping. However, a baby box programme is a good avenue to provide safe sleep information to parents.
- Programmes engage fathers. It is important to increase awareness among men about antenatal healthcare services and the importance of a supervised delivery at a health facility, as well as maternal and infant health. Inviting fathers to attend educational sessions promotes a balanced sharing of childcare responsibilities and gender equality.

10.3 Conclusion

This report is a response to the need for baby box research from both a global and Finnish perspective, as well as to the increasing international attention surrounding the baby box concept. Much of the interest centres around the fundamental question of whether or not the baby box “works.” While our findings indicate that the answer to this question depends on many factors, this report provides a comprehensive overview of the potential of the baby box and lays the groundwork for future discovery. Globally, the baby box provides tangible support during the vulnerable yet critical times of pregnancy and birth, and the potential inclusion of health education and psychological support elements expands the value of the baby box far beyond the box or items. It is a multi-purpose tool that has been implemented across many contexts, from ordinary homes to disaster or refugee settings, with various aims to support relevant goals such as promoting ANC, health facility births, breastfeeding, and good parenting practices. There is a crucial need for scientific evaluation of the baby box's impact, driven by the global implementation of the concept. The baby box serves as a symbolic reminder that mothers and babies are important and valuable. Through collaboration, exploration of evidence-based innovative solutions, and consideration of context-specific needs, we can protect the most valuable investment of all: our future.

REFERENCES

- AAP Task Force on Sudden Infant Death Syndrome. (2016). [SIDS and other sleep-related infant deaths: Evidence base for 2016 updated recommendations for a safe infant sleeping environment](#). *Pediatrics*, 138(5) e20162940. DOI: 10.1542/peds.2016-2940
- ActionAid. (2016). [Catalysing women's leadership in humanitarian action](#).
- Adams, J., Giles, E. L., McColl, E., & Sniehotta, F. F. (2014). [Carrots, sticks and health behaviours: A framework for documenting the complexity of financial incentive interventions to change health behaviours](#). *Health Psychology Review*, 8(3), 286–295. DOI: 10.1080/17437199.2013.848410
- Ahmala C., Lauronen N. & Ukkonen, M. (2014). [Kiertokorista äitiyspakkaukseen – poimintoja äitiyspakkauksen historiasta ja nykypäivästä](#) (Bachelor's thesis, Metropolia University of Applied Sciences, Helsinki). Retrieved November 11, 2018.
- Aleman, A., Tomasso, G., Cafferata, M. L., Colomar, M., & Betran, A. P. (2017). [Supply kits for antenatal and childbirth care: A systematic review](#). *Reproductive Health*, 14(1), 175. DOI: 10.1186/s12978-017-0436-9
- Alkema, L., Chou, D., Hogan, D., Zhang, S., Moller, A.B., Gemmill, A., ... Say, L. (2016). [Global, regional, and national levels and trends in maternal mortality between 1990 and 2015, with scenario-based projections to 2030: A systematic analysis by the UN Maternal Mortality Estimation Inter-Agency Group](#). *The Lancet*, 387(10017), 462–474. DOI: 10.1016/S0140-6736(15)00838-7
- Bachireddy, C., Joung, A., John, L.K., Gino, F., Tuckfield, B., Foschini, L., & Milkman, K.L. (2019). [Effect of different financial incentive structures on promoting physical activity among adults: A randomized clinical trial](#). *JAMA Network Open*, 2(8), e199863. DOI: 10.1001/jamanetwork-open.2019.9863
- Bar, S., Milanaik, R., & Adesman, A. (2016). [Long-term neurodevelopmental benefits of breastfeeding](#). *Current Opinion in Pediatrics*, 28(4), 559–566. DOI: 10.1097/MOP.0000000000000389
- Benzies, K., Loewen, M. & the Welcome to Parenthood study team. (2018). *Welcome to Parenthood: Combining neuroscience and mentorship to improve maternal perinatal psychosocial health*. Paper presented at the Canadian National Perinatal Research Meeting, Banff, Canada.

- Blair, P. S., Pease, A., Bates, F., Ball, H., Thompson, J. M. D., Hauck, F. R., ... Fleming, P. (2018). [Concerns about the promotion of a cardboard baby box as a place for infants to sleep](#). *BMJ (Online)*, 363(October), 1–3. DOI: 10.1136/bmj.k4243
- Bogdanoff, P., & Hämäläinen, U. (2011). [Bodyt, potkarit ja perhevapaat. Äitiyspakkauskyselyn tuloksia](#) (Nettityöpapereita 22, Kela, Helsinki).
- Burr, M. L., Trembeth, J., Jones, K. B., Geen, J., Lynch, L. A., & Roberts, Z. E. S. (2007). [The effects of dietary advice and vouchers on the intake of fruit and fruit juice by pregnant women in a deprived area: A controlled trial](#). *Public Health Nutrition*, 10(6), 559–565. DOI: 10.1017/S1368980007249730
- Chowdhury, R., Sinha, B., Sankar, M. J., Taneja, S., Bhandari, N., Rollins, N., ... Martines, J. (2015). [Breast-feeding and maternal health outcomes: A systematic review and meta-analysis](#). *Acta Paediatrica*, 104, 96–113. DOI: 10.1111/apa.13102
- Currie, J., & Gahvari, F. (2008). [Transfers in cash and in-kind: Theory meets the data](#). *Journal of Economic Literature*, 46(2), 333–383.
- Cusick, S. E., & Georgieff, M. K. (2016). [The role of nutrition in brain development: The golden opportunity of the “first 1000 days”](#). *The Journal of Pediatrics*, 175, 16–21. DOI: 10.1016/j.jpeds.2016.05.013
- Diamond-Smith, N., & Sudhinaraset, M. (2015). [Drivers of facility deliveries in Africa and Asia: Regional analyses using the demographic and health surveys](#). *Reproductive Health*, 12(1), 1–14. DOI: 10.1186/1742-4755-12-6
- Downe, S., Finlayson, K., Tunçalp, Ö., & Gülmezoglu, A. M. (2019). [Provision and uptake of routine antenatal services: A qualitative evidence synthesis](#). *Cochrane Database of Systematic Reviews*. DOI: 10.1002/14651858.CD012392.pub2
- Duncan, J. R., & Byard R. W (Eds.). (2018). [SIDS Sudden infant and early childhood death: The past, the present and the future](#). DOI: 10.20851/sids
- EBCOG Scientific Committee. (2015). [The public health importance of antenatal care](#). *Facts, views & vision in ObGyn*, 7(1), 5–6.

Every Woman Every Child. (2015). [*The Global Strategy for Women's, Children's and Adolescents' Health \(2016–2030\)* \[PDF file\]](#).

Finnwatch. (2019). [*Halpatuotantoa hikipajoissa? Äitiyspakkaukseen sisältyvien tuotteiden sosiaalinen vastuullisuus* \[PDF file\]](#). Retrieved April 10, 2019.

Gasparin, V. A., Strada, J. K. R., Moraes, B. A., Betti, T., Pitilin, É. de B., & Santo, L. C. do E. (2020). [*Factors associated with the maintenance of exclusive breastfeeding in the late postpartum*](#). *Revista Gaucha De Enfermagem*, 41(spe), e20190060. DOI: 10.1590/1983-1447.2020.20190060

Goldberg, N., Rodriguez-Prado, Y., Tillery, R., & Chua, C. (2018). [*Sudden infant death syndrome: A review*](#). *Pediatric Annals*, 47(3), e118–e123. DOI: 10.3928/19382359-20180221-03

Goldstein, R. D., Trachtenberg, F. L., Sens, M. A., Harty, B. J., & Kinney, H. C. (2016). [*Overall postneonatal mortality and rates of SIDS*](#). *Pediatrics*, 137(1), e20152298. DOI: 10.1542/peds.2015-2298

de Graaf, J. P., Steegers, E. A. P., & Bonsel, G. J. (2013). [*Inequalities in perinatal and maternal health*](#). *Current Opinion in Obstetrics & Gynecology*, 25(2), 98–108. DOI: 10.1097/GCO.0b013e32835ec9b0

Greene, M. E., Mehta, M., Pulerwitz, J., Wulf, D., Bankole, A., & Singh, S. (2006). [*Involving men in reproductive health: Contributions to development* \[PDF file\]](#).

Haataja, A. & Koskenvuo, K. (2017.) [*The maternity package revolutionised the monitoring of the health of mothers*](#). Retrieved November 11, 2018.

Hagger, M. S., Keatley, D. A., Chan, D. C. K., Chatzisarantis, N. L. D., Dimmock, J. A., Jackson, B., & Ntoumanis, N. (2014). [*The goose is \(half\) cooked: A consideration of the mechanisms and interpersonal context is needed to elucidate the effects of personal financial incentives on health behaviour*](#). *International Journal of Behavioral Medicine*, 21(1), 197–201. DOI: 10.1007/s12529-013-9317-y

- Hakulinen, T., & Gissler, M. (2017). [Finland's low infant mortality has multiple contributing factors \[Blog post\]](https://blogi.thl.fi/finlands-low-infant-mortality-has-multiple-contributing-factors/). Retrieved December 9, 2018, from <https://blogi.thl.fi/finlands-low-infant-mortality-has-multiple-contributing-factors/>
- Hauck, F. R., & Tanabe, K. O. (2008). [International trends in sudden infant death syndrome: stabilization of rates requires further action](#). *Pediatrics*, 122(3), 660–666. DOI: 10.1542/peds.2007-0135
- Hjerpe, R. (1989). *The Finnish economy 1860-1985: Growth and structural change*. Helsinki, Bank of Finland.
- Horta, B. L., Loret de Mola, C., & Victora, C. G. (2015). [Long-term consequences of breastfeeding on cholesterol, obesity, systolic blood pressure and type 2 diabetes: A systematic review and meta-analysis](#). *Acta Paediatrica*, 104, 30–37. DOI: 10.1111/apa.13133
- [How safe is the baby box?](#). (undated). Retrieved February 20, 2020
- Hunt, A., & Samman, E. (2016). [Women's economic empowerment. Navigating enablers and constraints \[PDF file\]](#).
- Ibarrarán, P., Medellín, N., Regalia, F. & Stampini, M. (2017). [How conditional cash transfers work. Good practices after 20 years of implementation \[PDF file\]](#).
- ILO. (2013). [Cash transfer programmes, poverty reduction and empowerment of women: A comparative analysis](#) (GED Working Paper 4/2013, ILO, Geneva) [PDF file].
- ILO. (2017). [World Social Protection Report 2017–19: Universal social protection to achieve the Sustainable Development Goals \[PDF file\]](#).
- ILO. (2018a). [Global wage report 2018/19: What lies behind gender pay gaps \[PDF file\]](#).
- ILO. (2018b). [Women and men in the informal economy: a statistical picture \[PDF file\]](#).
- Institute for Economics & Peace. (2018). [Global Peace Index 2018: Measuring peace in a complex world \[PDF file\]](#).

- Irwin, L.G., Siddiqi, A., & Hertzman, C. (2007). [Early child development: a powerful equalizer \(Final report for the WHO's Commission on the Social Determinants of Health\) \[PDF file\]](#).
- Just, D., & Price, J. (2013). [Using incentives to encourage healthy eating in children](#). *The Journal of Human Resources*, 48(4), 855872.
- Kela. (2019). [Maternity package](#). Retrieved January 6, 2019
- Kela. (2020). [Statistical database Kelasto](#). Retrieved July 24, 2020.
- Kirby, B., Mola, G., Case, C., & Robson, S. J. (2015). [The use of 'mother and baby gifts' \(MBGs\) to increase uptake of supervised births in the Milne Bay Province of Papua New Guinea](#). *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 55(3), 291–293. DOI: 10.1111/ajo.12325
- Koblinsky, M., Chowdhury, M. E., Moran, A., & Ronsmans, C. (2012). [Maternal morbidity and disability and their consequences: Neglected agenda in maternal health](#). *Journal of Health, Population, and Nutrition*, 30(2), 124–130. DOI: 10.3329/jhpn.v30i2.11294
- Korppi-Tommola, A. (1990). *Terve lapsi – Kansan huomen: Mannerheimin lastensuojeluliitto yhteiskunnan rakentajana 1920–1990*. Helsinki: Mannerheimin lastensuojeluliitto.
- Korppi-Tommola, A. (1997). [Ylppö. Arvo \(1887–1992\). Kansallisbiografia-verkkojulkaisu \[Online article\]](#).
- Koskenvuo, K. (2017). [Äitiyspakkaus osana kansanterveystyötä \[Blog post\]](#). Retrieved 11 November, 2018.
- Krokstad, S., Ding, D., Grunseit, A. C., Sund, E. R., Holmen, T. L., Rangul, V., ... Rose, G. (2015). [Global, regional, and national age–sex specific all-cause and cause-specific mortality for 240 causes of death, 1990–2013: A systematic analysis for the Global Burden of Disease Study 2013](#). *The Lancet*, 385(9963), 117–171. DOI: 10.1016/S0140-6736(14)61682-2
- Kronborg, H., & Vaeth, M. (2009). [How are effective breastfeeding technique and pacifier use related to breastfeeding problems and breastfeeding duration?](#) *Birth*, 36(1), 34–42. DOI: 10.1111/j.1523-536X.2008.00293.x

- Lynagh, M. C., Sanson-Fisher, R. W., & Bonevski, B. (2013). [What's good for the goose is good for the gander. Guiding principles for the use of financial incentives in health behaviour change.](#) *International Journal of Behavioral Medicine*, 20(1), 114–120. DOI: 10.1007/s12529-011-9202-5
- Malebranche, M., Nerenberg, K., Metcalfe, A., & Fabreau, G. E. (2017). [Addressing vulnerability of pregnant refugees.](#) *Bulletin of the World Health Organization*, 95(9), 611–611A. DOI: doi.org/10.2471/BLT.17.193664
- Millán, T. M., Barham, T., Macours, K., Maluccio, J., Stampini, M. (2019). [Long-term impacts of conditional cash transfers: Review of the evidence.](#) *The World Bank Research Observer*, 34(1), 119–159. DOI: 10.1093/wbro/lky005
- Moller, A.-B., Petzold, M., Chou, D., & Say, L. (2017). [Early antenatal care visit: A systematic analysis of regional and global levels and trends of coverage from 1990 to 2013.](#) *The Lancet. Global Health*, 5(10), e977–e983. DOI: 10.1016/S2214-109X(17)30325-X
- Montagu, D., Sudhinaraset, M., Diamond-Smith, N., Campbell, O., Gabrysch, S., Freedman, L., ... Donnay, F. (2017). [Where women go to deliver: Understanding the changing landscape of childbirth in Africa and Asia.](#) *Health Policy and Planning*, 32(8), 1146–1152. DOI: 10.1093/heapol/czx060
- Moodley, T., Moodley, D., Sebitloane, M., Maharaj, N., & Sartorius, B. (2016). [Improved pregnancy outcomes with increasing antiretroviral coverage in South Africa.](#) *BMC Pregnancy and Childbirth*, 16, 35. DOI: 10.1186/s12884-016-0821-3
- Moon, R., Hauck, F. (2018). [Risk factors and theories.](#) In J. Duncan & R. Byard (Eds.), *SIDS Sudden Infant and Early Childhood Death: The Past, the Present and the Future* (Chapter 10).
- Morgan, R., Tetui, M., Muhumuza Kananura, R., Ekirapa-Kiracho, E., & George, A. S. (2017). [Gender dynamics affecting maternal health and healthcare access and use in Uganda.](#) *Health Policy and Planning*, 32(suppl_5), v13–v21. DOI: 10.1093/heapol/czx011
- Ndu, I. K. (2016). [Sudden infant death syndrome: An unrecognized killer in developing countries.](#) *Pediatric Health, Medicine and Therapeutics*, 1. DOI: 10.2147/phmt.s99685

- Olsho, L., Klerman, J., Wilde, P., & Bartlett, S. (2016). [Financial incentives increase fruit and vegetable intake among Supplemental Nutrition Assistance Program participants: A randomized controlled trial of the USDA Healthy Incentives Pilot](#). *The American Journal of Clinical Nutrition*, 104(2), 423–435. DOI: 10.3945/ajcn.115.129320
- PATH (Program for Appropriate Technology in Health). (2006). [Clean-Delivery Kits. Guidelines for their use in programmatic settings \[PDF file\]](#).
- Rognum, T. O., Vege, Å., Stray-Pedersen, A., & Bøylestad, L. (2018). [A Scandinavian perspective](#). In J. Duncan & R. Byard (Eds.), *SIDS Sudden Infant and Early Childhood Death: The Past, the Present and the Future* (Chapter 20).
- Rosa, W. (2017). [Transforming our world: The 2030 agenda for sustainable development](#). In W. Rosa (Ed.), *A New Era in Global Health* (Appendix). DOI: 10.1891/9780826190123.ap02
- Rossouw, R., Burger, R. & Burger, R. (2017). [The Thula Baba Box study: A package intervention aimed at improving early access to antenatal care in Cape Town, South Africa. Evidence from a pilot randomised controlled trial](#) (REDI3x3 working paper 45, University of Cape Town, Cape Town).
- Salcan, S., Topal, I., & Ates, I. (2019). [The frequency and effective factors of exclusive breastfeeding for the first six months in babies born in Erzincan Province in 2016](#). *The Eurasian Journal of Medicine*, 51(2), 145–149. DOI: 10.5152/eurasianjmed.2018.18310
- Shapira, G., Kalisa, I., Condo, J., Humuza, J., Mugeni, C., & Walldorf, J. (2017). [The effects of in-kind demand-side conditional transfers for improving uptake of maternal and child health services in Rwanda \(Policy Research Working Paper 8060, World Bank, Washington, DC\)](#).
- Shapiro-Mendoza, C. K., Parks, S., Lambert, A. E., Camperlengo, L., Cottengim, C., & Olson, C. (2018). [The epidemiology of sudden infant death syndrome and sudden unexpected infant deaths: Diagnostic shift and other temporal changes](#). In: J. Duncan & R. Byard (Eds.), *SIDS Sudden infant and early childhood death: The past, the present and the future* (Chapter 13).

- Sidney, K., Tolhurst, R., Jehan, K., Diwan, V., & De Costa, A. (2016). ['The money is important but all women anyway go to hospital for childbirth nowadays'—A qualitative exploration of why women participate in a conditional cash transfer program to promote institutional deliveries in Madhya Pradesh, India.](#) *BMC Pregnancy and Childbirth*, 16, 47. DOI: 10.1186/s12884-016-0834-y
- Siipi, J., (1967). *Ryysyrannasta hyvinvointivaltioon*. Helsinki, Tammi.
- Smirnova, O. (2018). [Why this country parcels babies in boxes \[News article\].](#)
- Statistics Finland. (2017). [Number of deaths of children has halved in 20 years.](#) Retrieved June 7, 2019.
- Statistics Finland. (2018). [Infant mortality.](#) Retrieved November 11, 2018.
- Stephens, C. (2014). [Paying the piper: Additional considerations of the theoretical, ethical and moral basis of financial incentives for health behaviour change.](#) *International Journal of Behavioral Medicine*, 21(1), 202–205. DOI: 10.1007/s12529-013-9323-0
- Särkelä, S. (2013). [Vaippoja ja valistusta: Äitiyspakkauksen näkyvä ja näkymätön sisältö \(Master's thesis, University of Helsinki, Helsinki\).](#) Retrieved April 10, 2019.
- Taskinen, S., (2014). Maternity pack. In I Taipale (Ed.), *100 Social innovations from Finland* (4th edition), (pp. 101–103). Helsinki, Finnish Literature Society.
- Tebaldi, R., & Myamba, F. (Eds.). (2017). [Social protection: Towards gender equality United Nations Development Programme \[Special issue\] \[PDF file\].](#) *Policy in Focus*, 14(1).
- Thaddeus, S., & Maine, D. (1994). [Too far to walk: Maternal mortality in context.](#) *Social Science & Medicine* (1982), 38(8), 1091–1110. DOI: 10.1016/0277-9536(94)90226-7
- UN. (2018). [Promoting inclusion through social protection \[PDF file\].](#)

- UN OHCHR. (1989). [*Convention on the Rights of the Child, 20 November 1989*](#).
- UN Women. (2016). [*Restoring dignity and building resilience \(Technical report\)*](#).
- UNFPA. (2015). [*State of the world population*](#).
- UNFPA. (undated). [*Sexual & reproductive health*](#). Retrieved 2019.
- UNHCR. (2017). [*Climate change and disaster displacement: An overview of UNHCR's role \[PDF file\]*](#).
- UNHCR. (2018). [*Forced displacement in 2017: Global trends \[PDF file\]*](#).
- Victora, C. G., Bahl, R., Barros, A. J., França, G. V., Horton, S., Krasevec, J., ... & Group, T. L. B. S. (2016). [*Breastfeeding in the 21st century: Epidemiology, mechanisms, and lifelong effect*](#). *The Lancet*, 387(10017), 475–490. DOI: 10.1016/S0140-6736(15)01024-7
- Vuorenkoski, L., Mladovsky, P., & Mossialos, E. (2008). [*Finland: Health system review*](#). *Health Systems in Transition*. 2008; 10(4): 1–168. Retrieved January 30, 2019.
- Wang, P., Connor, A. L., Guo, E., Nambao, M., Chanda-Kapata, P., Lambo, N., & Phiri, C. (2016). [*Measuring the impact of non-monetary incentives on facility delivery in rural Zambia: A clustered randomised controlled trial*](#). *Tropical Medicine & International Health: TM & IH*, 21(4), 515–524. DOI: 10.1111/tmi.12678
- WHO. (2015a). [*Safe Childbirth Checklist implementation guide \[PDF file\]*](#).
- WHO. (2015b). [*WHO recommendations on health promotion interventions for maternal and newborn health 2015 \[PDF file\]*](#).
- WHO. (2016). [*WHO recommendations on antenatal care for a positive pregnancy experience \[PDF file\]*](#).
- WHO. (2017). [*Leading the realization of human rights to health and through health: Report of the High-Level Working Group on the Health and Human Rights of Women, Children and Adolescents \[PDF file\]*](#).

WHO. (2018). [Maternal mortality](#).

WHO. (2019). [Infant mortality](#).

The World Bank. (2019). [Databank GINI index](#).

Yargawa, J., & Leonardi-Bee, J. (2015). [Male involvement and maternal health outcomes: Systematic review and meta-analysis](#). *Journal of Epidemiology and Community Health*, 69(6), 604–612. DOI: 10.1136/jech-2014-204784

APPENDIX 1 Methodology employed in the Thinking Outside the Box study

The data used for this report derive primarily from our qualitative study conducted in 2017–2018. We chose an exploratory approach to clarify the baby box as a concept and to provide initial descriptive information, as well as a better understanding of varying local baby box adaptations around the world. We also aimed to identify challenges and best practices to share with anyone planning or implementing a baby box programme.

The study was conducted in three phases (described in detail in Sections A1.1 to A1.7)

- 1) an initial review to explore existing published and unpublished studies in this field
- 2) a global mapping to identify baby box programmes around the world using the internet
- 3) a survey conducted by questionnaire, as well as in-depth interviews to collect insights of the implementations of selected programmes.

Prior to our study, Finnish authorities were not aware of how many baby box programmes existed globally; some estimated about 30. Our literature search revealed that there was hardly any scientific evidence, such as peer-reviewed journal articles, available on baby box interventions. We proceeded to search lay media for relevant material. We soon found that 30 baby box programmes was an underestimation, as several news articles mentioned baby box programmes in many different countries. However, in these news reports there was little information on the implementation and aims of the programmes. Recognising both the presence of baby box articles in newspapers and social media rather than in traditional academic outlets, as well as the tendency for programme organisers to publish information on their own websites, we chose non-academic internet pages as a potential source to map the baby box programmes. Correspondingly, we developed a systematic internet mapping protocol to capture the variety of the different adaptations of the baby box concept. We invited nearly one-third of the programmes found in the mapping phase to complete a questionnaire and an in-depth interview, which provided insight into the objectives, implementation, and local adaptations of the programmes.

A1.1 Initial literature search and data gathering

We conducted an initial exploratory literature search. Our aim was to assess the knowledge gap in the literature and accordingly target our study to address it.

We searched five academic databases (Medline, Academic Search Premier (Ebsco), ProQuest, Web of Science and ScienceDirect). We searched the following in Medline in groups connected by appropriate Boolean Operators: group (1) child*, baby or babies, infant or infants or infancy, neonat*, mother*, matern*; group (2) package*, box*, kit or kits, benefit or benefits, grant*, allowance*, gift*; group (3) program*, intervention*, service*; group (4) cloth*, supply or supplies, item*, in-kind*. In other databases we applied a simpler list of search words including maternity pack*, maternity support*, baby box, baby pack*, baby support*, child* pack*, child* support*.

The exploratory literature search indicated that there was not much scientific, peer-reviewed evidence available on baby box interventions and their impacts. We only identified three relevant baby box-related articles through the literature search. This is likely due to many of the programmes being relatively recent: three-quarters of the programmes we interviewed had been in place for less than three years. We acquired five additional academic or comparable grey literature sources including articles, reports, and a poster during the mapping phase, from the programme organisers of identified baby box programmes or from the internet.

A1.2 Mapping

To complement the literature review, we developed a mapping protocol to identify baby box programmes that had an online presence. The mapping was carried out between November 2017 and June 2018. We conducted systematic searches on Google using search terms that combined a name of a country from the WHO country list with keywords – baby box, maternity package and child* package. The searches were done in English and complemented with language skills available within the research team (Arabic, French, Vietnamese, Swedish, and Finnish) where relevant. Our mapping was further supported by information from Kela, Finnish Embassies, and our interviewees.

We developed a preliminary definition of the baby box to identify baby box programmes during the searches. We iteratively refined the definition throughout the search process as we developed a better understanding of local versions of baby box interventions. Based on the refined definition, *the baby box* (or the maternity package) is a material form of support given to an expectant mother or caregiver(s) to promote the wellbeing of a baby and family, (elaborated upon in Chapter 1) we decided on the criteria for including or excluding programmes from our study at the end of the mapping phase. More information on the excluded programmes can be found in Appendix 2.

For each programme included, we collected the following information: programme name, country, organisation, contact details, goals, target groups, and, where relevant, con-

ditions for receiving a baby box. We received most of the programme information from websites. We assessed the reliability and availability of the data for each baby box programme to determine whether the information could contribute to the project. Since our mapping took place on the internet, we could not always confirm the reliability of all data on all websites. However, we could triangulate the data to improve credibility; for instance, if the first link found was to a news article, we then checked the information against the organisation's own website and assessed whether the organisation's website contained adequate information, such as contact details. We considered each programme on a case-by-case basis, and if the information was not adequately available and reliable, the programme was excluded.

To complement the internet search, we contacted Finnish Embassies by publishing a note on the intranet of the Ministry for Foreign Affairs of Finland. We asked the Embassies to inform us if they were aware of any existing baby box programmes in their host countries and whether they could provide us with more information about the programmes and the organisations responsible for them. Finnish Embassies are a good resource when exploring global baby box programmes, as they have been promoting the Finnish baby box as a component of their cultural and public relations programmes for many years, especially during the recent centenary of Finland's independence. As a result, we received information on eight baby box programmes, three of which we had already identified during the online mapping phase.

A1.3 The selection of programmes for further study

To study and document the diversity of baby box interventions around the world, out of the 91 mapped programmes we chose 39 programmes that differed in geographical location, main aims, type of organisation, and type of programme (such as universal or targeted; conditional or unconditional). Of the invited 39 programmes, 29 agreed to participate in a survey and an in-depth interview.

A1.4 Survey

Interviewed participants first completed a short questionnaire via the SurveyMonkey platform. We provided a Microsoft Word version of the questionnaire for participants who had difficulty in accessing or using the platform. The questionnaire included questions about the type of container and its contents, number of packages delivered, and operation duration of the programme. Information obtained through the survey facilitated the interview and formed a part of our findings.

A1.5 Interviews

We conducted semi-structured interviews via Skype (22 programmes) or email (7 programmes) between February and July of 2018. There were 34 interviewees, 1 or 2 per interview. The person who had responded to the questionnaire also participated in the interview. The interviewees had different occupational titles, but they generally worked in a central position in their baby box programmes and could therefore provide insightful information. There were at least two research team members present at each Skype interview. We constructed an interview guide based on the literature search and the initial findings of our mapping of baby box programmes. The guide included both closed and open-ended questions which were grouped into topics. The guide was in table format with three main columns: topics, questions, and interviewees' answers. The interviews began with asking the interviewees to describe their role in the programme and continued with questions covering various topics surrounding their baby box programme, ranging from the aims and intended beneficiaries to implementation issues and means of supporting parenting and children's rights. The interviews were recorded.

A verbatim transcription was considered unnecessary due to the nature of this research, where interviewees' perceptions and experiences, rather than the exact choices of words, were the focus. With the help of the interview guide, interviewees' data were organised into topics during the transcribing phase. At least two members of the research team were involved at any time in the transcribing process to ensure systematic organisation of interview data into the interview guide. In-breaths, irrelevant fillers and unclear words were not reported in the transcripts. Grammar mistakes, broken sentences and sentences with repeated words were edited when necessary to improve readability. The guide with transcribed data was sent to interview participants for verification.

A1.5 Data analysis

After all data were entered into the interview guide and verified by participants, we continued to thematically analyse the entire dataset. To begin, we read through the data twice and content was simultaneously coded according to specific questions we wished to code around. The coding was conducted in a group wherein we discussed data extracts and emerging codes or themes as the analysis proceeded. Following this initial analysis, we used *Atlas.ti* and a whiteboard to visualize the interconnectivity of the extracts. We analysed how the different elements in the interviews were linked to each other within and across interviews. This was especially useful when analysing the aims of the baby box programmes, how interviewees justified these aims, and how they approached achieving them. After the initial

two rounds of coding and thematising, we conducted a further round of analysis on relevant parts of the interviews for each main topic.

A1.6 Reporting

In this report, our aim was to convey central findings in a way that could appeal to different audiences, from academic to the general public to those designing their own baby box intervention. We chose to highlight some programmes (“Programme overviews”) to illustrate different aspects of the baby box phenomenon by showcasing programmes (with their permission) that are different from each other in terms of size, aim, geographical location, etc. The data presented in these boxes, including numerical figures, reflect the status of the programmes at the time of data collection. The included “Insights” offer real-world stories showcasing some of the most common themes surrounding the baby box or provide supporting evidence for various topics addressed throughout the report.

A1.7 Ethics

We followed the ethical guidelines of Tampere University and The Finnish Advisory Board on Research Integrity as well as the common ethical principles for qualitative research to avoid possible harm to participants, to respect their autonomy, and to protect their privacy.

The participants were informed of the purpose and aims of this study, as well as their right to withdraw from the project at any point. We asked for their consent to record the interviews, to use the photos of their programmes with appropriate crediting, and to reveal the name of the countries and the organisations in our publications. The interviewees provided information in their professional capacity. Personal identifiers including name, sex, and professional position of the interviewees were kept confidential.

A1.8 Limitations

In reviewing academic databases to explore the evidence base for the baby box concept (A1.1), we could only conduct initial literature searches rather than a systematic literature review. It is possible that we did not find all baby box-related academic articles.

In the mapping phase (A1.2), we developed a unique mapping protocol to identify baby box programmes that had an online presence. However, the use of the Google search engine to find baby box programmes around the world has some limitations. One issue was the reliability and legitimacy of online content, which, while outside of our control, we addressed via methods described in Section A1.2. The comprehensiveness and repeatability of the search process may also be of concern, as Google search results follow certain algorithms.

Searching Google from different devices and user accounts or from different locations can yield different results. Moreover, as some programmes may not use the specific terms outlined in our search protocol, the use of keyword searches may have missed pertinent information. This is due to the novelty and versatility of the “baby box field”. Google searches also yield many results, yet we reviewed only the first three pages for each set of keywords. Although unlikely, some baby box-related content may have been listed further in the search pages. Similarly, we may have missed some programmes that publish their content in languages other than English; however, contacting Finnish Embassies for information may have compensated for this.

APPENDIX 2 Other types of maternity packages and baby boxes

While searching for baby box programmes, we also discovered other types of boxes or packages offered to mothers and babies that did not align with our broader definition of the baby box used in this study, as elaborated upon in Chapter 1. The most commonly found “baby box” or “maternity package” concepts excluded from this study are described below.

Commercial or promotional baby boxes

We excluded programmes that are commercial in nature. We found commercial versions of the baby box that closely resembled the Finnish baby box in Australia, Greece, Ireland, Russia, Romania, Spain, the UK, and the US. They were starter kits for new parents and included baby clothes and care items, yet they were only commercially available (i.e. sold to end-users). The baby box concept has also been applied and modified to promote certain pharmacy or supermarket chains or specific brands that produce baby care items. These promotional baby boxes were usually smaller in size and included free sample products of the brand(s) in question. This concept has also been adopted by certain insurance companies. These packages included gifts, care products, and discount coupons. While some of these packages were given out for free, they differed from our concept of the baby box in that their main purpose was to engage existing customers and attract new ones.

While commercial and promotional programmes were excluded from our study, some of the included baby box programmes included some sponsored items in their packages. Therefore, there is a thin line between commercial or promotional baby box programmes and programmes whose primary aims are built around the promotion of wellbeing but whose boxes included some sponsored items.

Clean delivery kits

Clean delivery kits are packages given to expectant mothers to ensure safe delivery and infant survival, as well as to minimise risk of infection at the time of delivery. We did not include clean delivery kits in our study if the kit exclusively included delivery items and/or other medical items. However, some of the baby boxes included in our study provided clean delivery items in addition to baby clothes and care items (see section 6.5).

Maternal service packages in hospitals

While searching for baby box programmes and maternity packages, we found many maternity package programmes offered by private hospitals. In these cases, the term maternity

package referred to the health and medical care service package offered to those who gave birth at their hospital. Some of these hospital service packages include post-delivery health-care for the infant, breastfeeding support for the mother, and material gifts. These types of programmes were excluded as well.

Baby box to abandon a baby

In several countries, we found a separate concept incidentally also termed “baby box,” although its purpose is different from the “baby box” as defined in this report. These baby boxes were small doors through which one could anonymously give their baby for adoption to an orphanage or social institution that cares for abandoned children.

APPENDIX 3 Finnish baby box contents

Table A1. Finnish baby box items, 2020.

Item	Number of items	Different designs
Outerwear/winterwear		
Snowsuit	1	1
Insulated booties (a pair)	1	1
Insulated mittens (a pair)	1	1
Mitten clips (a pair)	1	1
Lightweight overall	1	1
Wool-blend coverall	1	1
Woollen cap	1	1
Balaclava hood	1	1
Baby clothes		
Cap	1	1
Overall with hood	1	1
Romper	1	1
Wrap-around bodysuit (long sleeves)	4	4
Bodysuit (long sleeves)	4	4
Bodysuit (short sleeves)	1	1
Trousers	3	3
Leggings	3	3
Tights	1	1
Socks	2	2
Mittens	1	1
Onesie (pyjamas)	1	1
Sleep items		
Box	1	1
Mattress	1	1
Sleeping bag	1	1
Blanket	1	1
Duvet	1	1
Duvet cover	1	1
Sheet	1	1
Protector sheet	1	1

Table A1 continues.

Table A1 continued.

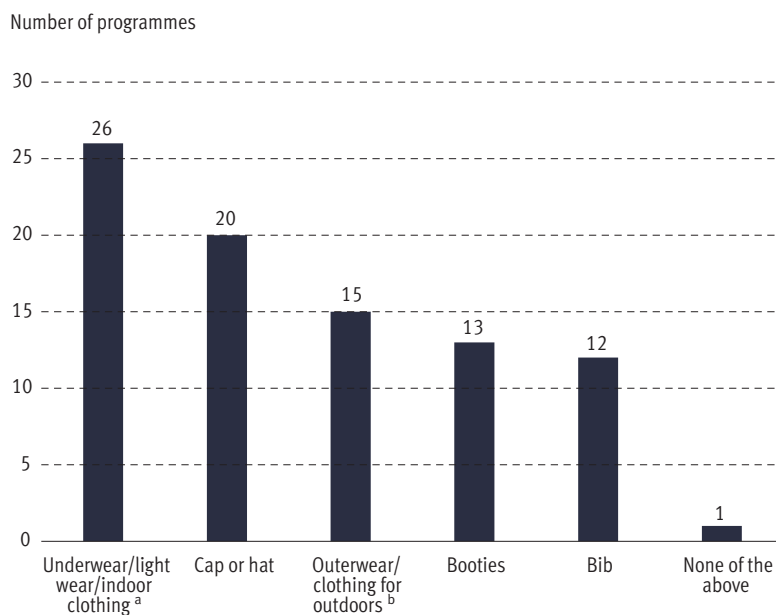
Item	Number of items	Different designs
Care items		
Sanitary towels (pack of 10)	1	1
Thermometer	1	1
Bath thermometer	1	1
Toothbrush for baby	1	1
Hairbrush for baby	1	1
Nail scissors	1	1
Condoms (pack of 5)	1	1
Lubricant	1	1
A pair of breast pads	1	1
Nipple cream	1	1
Other		
Book	1	1
Feeding bib	1	1
Drooling bib /scarf	1	1
Cuddly toy	1	1
Towel	1	1
Muslin squares	2	1
Total (including the box itself)	56	

For current items, please visit [the maternity package website](#).

APPENDIX 4 Global baby box contents

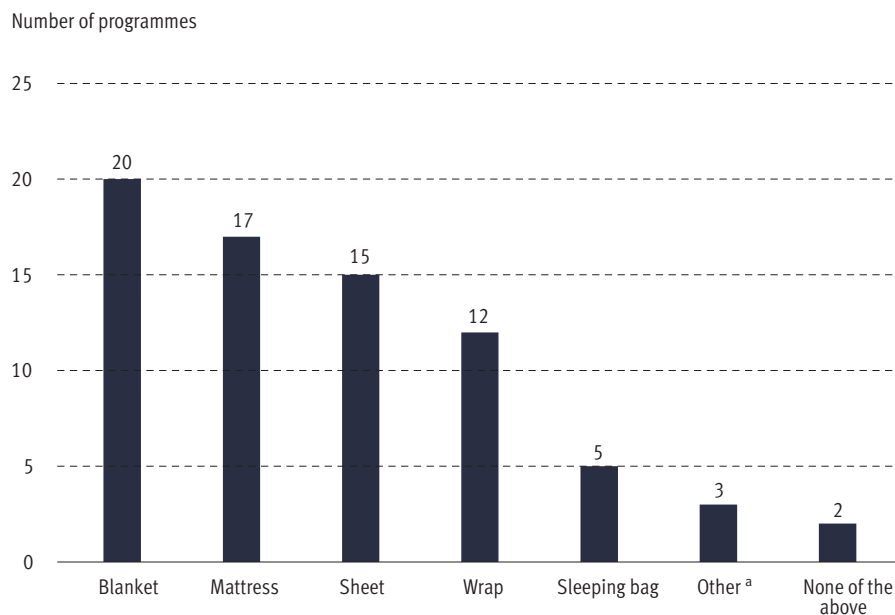
As discussed in Chapter 6, baby box programmes supplied beneficiaries with varying items for the care of the baby or mother, as well as items related to play, education, or health and reproduction. This appendix provides an overview of the items included by our interviewed programmes, as well as how frequently the items were included.

Figure A1. Number of interviewed programmes by baby clothing items included in their baby boxes.



^aUnderwear/light wear/indoor clothing refers to vests, pants, romper, overall, bodysuit, shirt, t-shirt, leggings, or socks

^bOuterwear/clothing for outdoors refers to one-piece suits, jackets, trousers, or mittens

Figure A2. Number of interviewed programmes by type of baby sleep items included their baby boxes.

^aOther refers to a sleeping sack, a sleeping sling, or a chitenje – a traditional cloth worn by African women and used to carry the baby on the mother's back.

Figure A3. Number of interviewed programmes by hygiene and personal care items included in their baby boxes.

^aOther refers the least common included items in this category, including a plastic sheet for changing nappies, safety pins for nappies, sensitive laundry powder and laundry soaker, underwear for mothers, toilet paper, a burp cloth, sanitary care wash for mothers, water sterilising tablets, or a bath thermometer.

Figure A4. Number of interviewed programmes by baby toys and books included in the baby box.

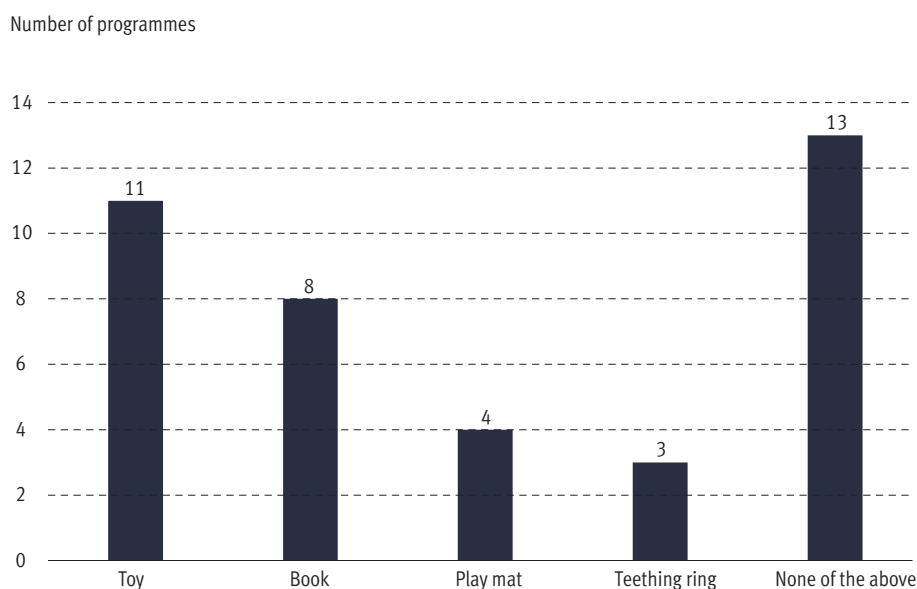
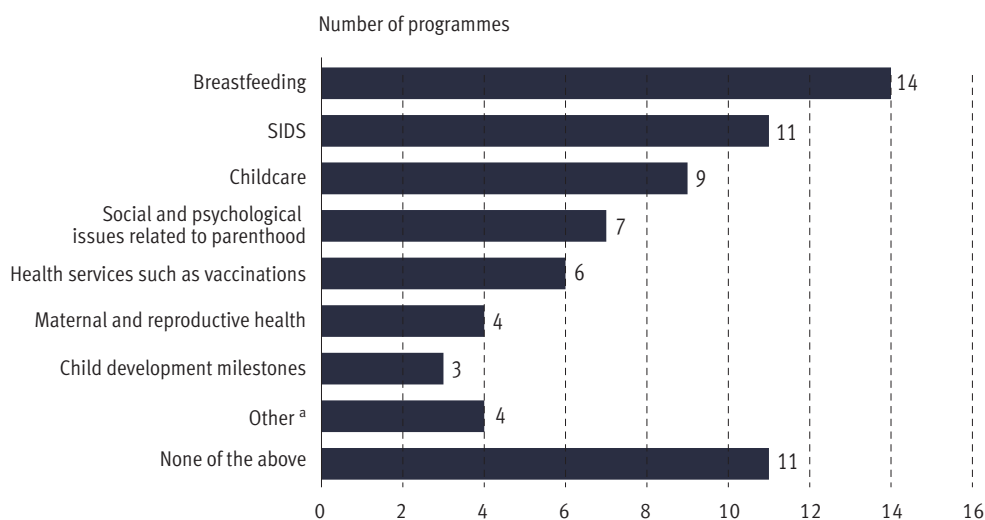
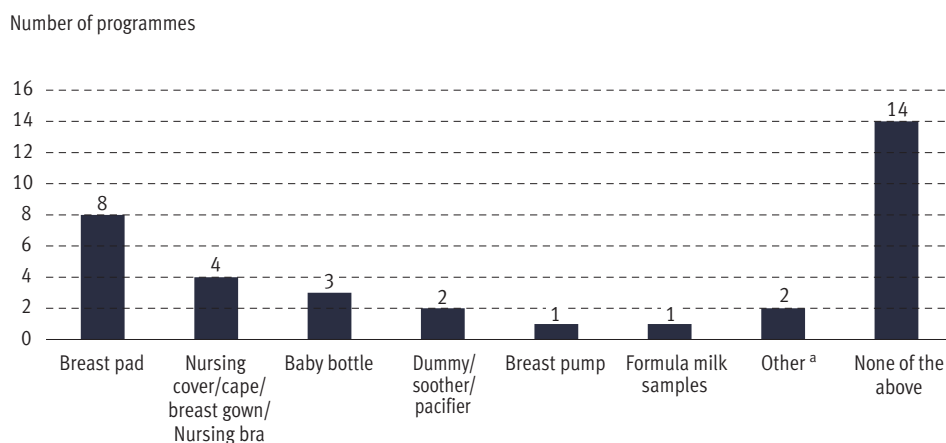


Figure A5. Number of interviewed programmes by topics covered in parenting information materials included in the baby box.



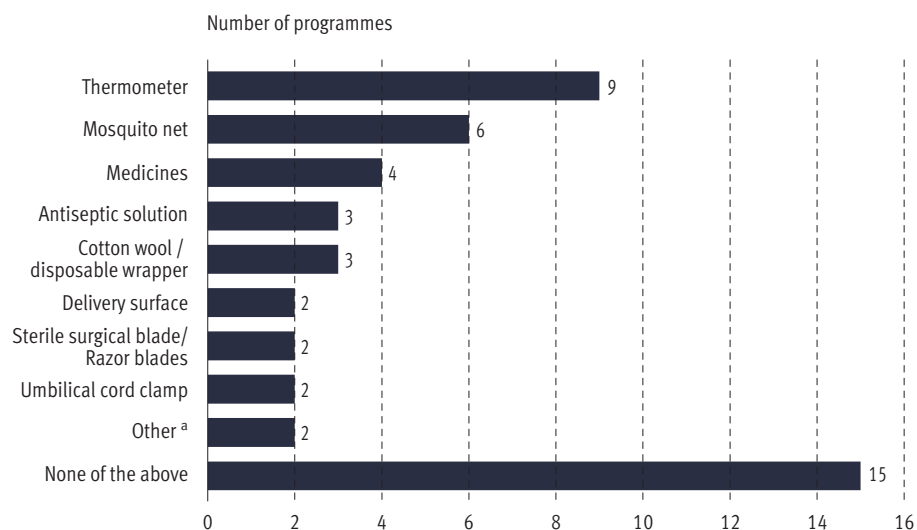
^aOther refers to box item usage guidelines, HIV awareness, malaria prevention, or assistive service contact information.

Figure A6. Number of interviewed programmes by breastfeeding or feeding related items included in their baby boxes.



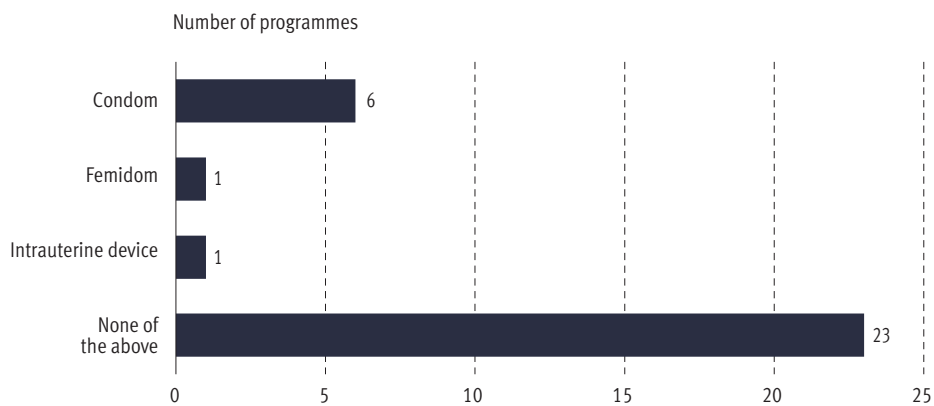
^aOther refers to a cup, or food items for mothers.

Figure A7. Number of interviewed programmes by medical and clean delivery items included in their baby boxes.



^aOther refers to a set of basic care items, or sterile gloves used for delivery

Figure A8. Number of interviewed programmes by contraceptive items included in their baby boxes.



THE BABY BOX

Enhancing the wellbeing of babies and mothers around the world

The baby box is a Finnish social innovation that has captivated interest around the globe. This book highlights the journey of the baby box in over 60 countries, offering a comprehensive overview of the Finnish baby box and its many international adaptations.

The story of the baby box begins in post-war Finland, where it evolved from a community-based resource to a nationally-funded and internationally recognized social benefit. The global mapping of the baby box presented in this book expands on this history by exploring the influence of the baby box concept internationally, from refugee camps and high-income countries to remote islands and prisons.

Written by an international, multi-disciplinary team of researchers, this book explores the baby box concept from various angles. The diverse and expansive nature of this study makes it an excellent resource for parents, researchers, and anyone generally interested in the baby box concept. Also showcased are the many creative solutions that baby box programme organisers have devised to address context-specific challenges, making it additionally useful as a handbook for policy-makers or professionals developing their own programme.



KELA RESEARCH

julkaisut@kela.fi

www.kela.fi/web/en/research

ISBN 978-952-284-089-9 (print)

ISBN 978-952-284-090-5 (pdf)

